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# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

June 21, 2010

Corey Thurston  
Western Clay Company  
620 East State Highway 24  
Aurora, Utah 84620

Subject: Approval of Amended Notice of Intention, Western Clay Co., Bentonite Pits, M/041/0012, Sevier County, Utah

Dear Mr. Thurston:

The Division has reviewed your amended Notice of Intention to Commence Large Mining Operations for the Bentonite Pits Quarries project and finds the amended Notice complete. On March 31, 2010, we received the final amendment to the Notice. Enclosed is a copy of the approved amendment. The Division has received the letter of credit from Zions Bank in the amount of \$428,000.00 for the reclamation surety.

**You may commence with your mining activities as outlined.** Please be advised that you are bound by the same mining and reclamation standards as outlined in the original notice of intention and must receive written acceptance from this office prior to creating any additional disturbance beyond that which is approved with the amendment.

Enclosed with this letter is a new reclamation contract form. The Division is trying to update the reclamation contracts of every operator who has the older form, so **we ask that you review and sign it and return the original to the Division** so the Division's director can sign it. The reason for changing the form is that the old form had to be updated every time there was an amendment to the mine plan. With the current amendment approval, your reclamation contract is obsolete.

Thank you for your cooperation. When in the area, a member of the Division staff will examine the site. In reply, please refer to file number M/041/0012.

Sincerely,

Paul B. Baker  
Minerals Program Manager

PBB:jcr:pb

Cc: Penny Berry

Enclosures:

Reclamation Contract  
Approved Pages for NOI

P:\GROUPS\MINERALS\WP\M041-Sevier\M0410012-BentonitePits\final\appvl-3466-06152010.doc



Ref. - R 647-4-104

Form MR-LMO

Replacement Page 3

Page 3

5. Location of Operation:

County(ies) Sevier  
 Portions of N.E. 1/4, Section: 2 Township: T215 Range: R1W  
 Portions of N.E. 1/4, Section: 2 Township: T215 Range: R1W  
 Portions of S.E. 1/4, Section: 35 Township: T205 Range: R1W

The names of the surface and mineral owners for any areas which are to be impacted by mining must be provided to the Division. This list should include all private, state and federal ownership and the owners of lands immediately adjacent to the project areas.

6. Ownership of the land surface (circle all that apply):

(X)Private (Fee), Public Domain (BLM), National Forest (USFS), (X)State of Utah (SITLA) other:

Name: Western Clay Company Address: 620 East SR-24, Aurora, Utah 84620  
 Name: State of Utah Address: \_\_\_\_\_  
 Name: \_\_\_\_\_ Address: \_\_\_\_\_  
 Name: \_\_\_\_\_ Address: \_\_\_\_\_

7. Owner(s) of record of the minerals to be mined (circle all that apply):

(X)Private (Fee), Public Domain (BLM), National Forest (USFS), (X)State of Utah (SITLA) other:

Name: Western Clay Company Address: 620 East SR-24, Aurora, Utah 84620  
 Name: State of Utah Address: \_\_\_\_\_  
 Name: \_\_\_\_\_ Address: \_\_\_\_\_  
 Name: \_\_\_\_\_ Address: \_\_\_\_\_

8. BLM Lease or Project File Number(s) and/or USFS Assigned Project Number(s): \_\_\_\_\_

BLM Claim Numbers: Utah

State Lease Number(s): ML 1937

Name of Lessee(s): Western Clay Company

9. Adjacent land owners:

Name: Ken Kirby, Lynn Nelson Address: 4150 N. 100 W. Redmond, Utah  
 Name: Gary & Susan Carlisle Address: 126 W. Main St., Redmond, Utah  
 Name: Terrel & Rhea Nelson Address: 305 S. 100 E. Redmond, Utah

10. Have the land, mineral and adjacent land owners been notified in writing?

Yes X No \_\_\_\_\_

If no, why not? \_\_\_\_\_

11. Does the Permittee / Operator have legal right to enter and conduct mining operations on the land covered by this notice? Yes X No \_\_\_\_\_

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## Brief Soil Descriptions (UT)

Sevier County Area, Utah

[Absence of an entry indicates that the feature is not a concern or that data were not estimated. Data applies to the entire extent of the map unit within the survey area. Map unit and soil properties for a specific parcel of land may vary somewhat and should be determined by onsite investigation]

### B1--Torriorthents-Haplogypsis association, 5 to 35 percent slopes

#### Composition

- Torriorthents, north, north aspects and similar soils: 40 percent of the unit
- Torriorthents, south, south aspects and similar soils: 30 percent of the unit
- Haplogypsis and similar soils: 15 percent of the unit
- Rock outcrop: 10 percent of the unit
- Badland: 5 percent of the unit

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#### Setting

Landform(s): badlands, hills

Elevation: 5118 to 6844 feet

Precipitation: 8 to 16 inches

Slope gradient: 10 to 35 percent

Air temperature: 46 to 51 °F

Frost-free period: 100 to 140 days

#### Characteristics of Torriorthents, north, north aspects and similar soils

Average total avail. water in top 5 feet (in.): 4.6

Available water capacity class: Low

Parent material: gypsiferous slope alluvium over residuum weathered from gypsiferous shale

Restrictive feature(s): paralithic bedrock at 10 to 79 inches  
lithic bedrock at 31 to 79 inches

Depth to Water table: none within the soil profile

Drainage class: well drained

Flooding hazard: none

Ponding hazard: none

Saturated hydraulic conductivity class: Moderately Low

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Land capability class, irrigated:

Land capability class, nonirrigated: 7s

Hydric soil: no

Hydrologic group: C

Runoff class: very high

Potential frost action: moderate

Farm Class: Not prime farmland

#### Representative soil profile:

Horizon -- Depth (inches)	Texture	Available water capacity (inches)	pH	Salinity (mmhos/cm)	SAR
A -- 0 to 13	Channery loam	1.3 to 1.9	7.9 to 8.4	0.0 to 2.0	0
C -- 13 to 37	Sandy clay loam	1.5 to 3.9	7.9 to 9.0	2.0 to 4.0	0 to 5
Cr -- 37 to 41	Weathered bedrock			Null	Null

Ecological class(es): NRCS Rangeland Site - Semidesert Loam (Wyoming Big Sagebrush)

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## Brief Soil Descriptions (UT)

Sevier County Area, Utah

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[B1--Torriorthents-Haplogypsis association, 5 to 35 percent slopes]

**Characteristics of Torriorthents, south, south aspects and similar soils**

Average total avail. water in top 5 feet (in.): 1.4

Available water capacity class: Very low

Parent material: gypsiferous slope alluvium over residuum  
weathered from gypsiferous shaleRestrictive feature(s): paralithic bedrock at 2 to 10 inches  
lithic bedrock at 10 to 20 inches

Depth to Water table: none within the soil profile

Drainage class: well drained

Flooding hazard: none

Ponding hazard: none

Saturated hydraulic conductivity class: Moderately Low

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Land capability class, irrigated: 2c

Land capability class, nonirrigated: 6c

Hydric soil: no

Hydrologic group: D

Runoff class:

Potential frost action: low

Farm Class: Not prime farmland

**Representative soil profile:**

Horizon -- Depth (inches)	Texture	Available water capacity (inches)	pH	Salinity (mmhos/cm)	SAR
C -- 0 to 20	Very channery silty clay	0.4 to 2.6	7.9 to 9.6	4.0 to	9 to 13
Cr -- 20 to 24	Weathered bedrock			Null	Null
R -- 24 to 28	Bedrock			Null	Null

Ecological class(es): NRCS Rangeland Site - Semidesert Shallow Gypsum (Shadscale)

**Characteristics of Haplogypsis and similar soils**

Average total avail. water in top 5 feet (in.): 4.4

Available water capacity class: Low

Parent material: gypsiferous slope alluvium over residuum  
weathered from gypsiferous shale

Restrictive feature(s): paralithic bedrock at 20 to 79 inches

Depth to Water table: none within the soil profile

Drainage class: well drained

Flooding hazard: none

Ponding hazard: none

Saturated hydraulic conductivity class: Moderately Low

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Land capability class, irrigated:

Land capability class, nonirrigated:

Hydric soil: no

Hydrologic group: C

Runoff class:

Potential frost action: moderate

Farm Class: Not prime farmland

## Brief Soil Descriptions (UT)

Sevier County Area, Utah

[B1--Torriorthents-Haplogypsis association, 5 to 35 percent slopes]

### Representative soil profile:

Horizon -- Depth (inches)	Texture	Available water capacity (inches)	pH	Salinity (mmhos/cm)	SAR
A -- 0 to 2	Sandy clay loam	0.3 to 0.4	7.4 to 8.4	2.0 to 8.0	0 to 5
Bw -- 2 to 10	Clay	0.4 to 1.3	7.9 to 8.4	2.0 to 8.0	0 to 5
By -- 10 to 59	Very parachannery sandy clay loam	2.0 to 6.4	7.9 to 8.4	4.0 to	0 to 5
Cr -- 59 to 63	Weathered bedrock			Null	Null

Ecological class(es): NRCS Rangeland Site - Semidesert Silt Loam (Winterfat)

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## Brief Soil Descriptions (UT)

Sevier County Area, Utah

[GP--Pits]

### GP--Pits

- Pits: 100 percent of the unit

#### Composition

#### Setting

Landform(s):

Elevation:

Precipitation:

Slope gradient:

Air temperature:

Frost-free period:

#### Characteristics of Pits

Average total avail. water in top 5 feet (in.):

Available water capacity class: NA

Parent material:

Restrictive feature(s):

Depth to Water table:

Drainage class:

Flooding hazard:

Ponding hazard:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Land capability class, irrigated:

Land capability class, nonirrigated:

Hydric soil: unrank

Hydrologic group:

Runoff class:

Potential frost action:

Farm Class: Not prime farmland

Saturated hydraulic conductivity class: NA

Ecological class(es):

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## Brief Soil Descriptions (UT)

Sevier County Area, Utah

[OTE--Tosser-Hiko Peak-Annabella complex, 5 to 40 percent slopes]

### OTE--Tosser-Hiko Peak-Annabella complex, 5 to 40 percent slopes

#### Composition

- Tosser and similar soils: 45 percent of the unit
- Hiko Peak and similar soils: 25 percent of the unit
- Annabella and similar soils: 20 percent of the unit
- Escalante and similar soils: 10 percent of the unit

#### Setting

*Landform(s)*: intermontane basins, stream terraces  
*Elevation*: 5118 to 5889 feet  
*Precipitation*: 8 to 12 inches

*Slope gradient*: 8 to 40 percent  
*Air temperature*: 46 to 51 °F  
*Frost-free period*: 100 to 140 days

#### Characteristics of Tosser and similar soils

*Average total avail. water in top 5 feet (in.)*: 2.7  
*Available water capacity class*: Very low  
*Parent material*: colluvium and slope alluvium derived from igneous rocks, limestone and quartzite  
*Restrictive feature(s)*: none  
*Depth to Water table*: none within the soil profile  
*Drainage class*: well drained  
*Flooding hazard*: none  
*Ponding hazard*: none

*Saturated hydraulic conductivity class*: High

*Soil loss tolerance (T factor)*: 4  
*Wind erodibility group (WEG)*: 6  
*Wind erodibility index (WEI)*: 48  
*Land capability class, irrigated*:  
*Land capability class, nonirrigated*:  
*Hydric soil*: no  
*Hydrologic group*: A  
*Runoff class*:  
*Potential frost action*: low  
*Farm Class*: Not prime farmland

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## Brief Soil Descriptions (UT)

Sevier County Area, Utah

[OTE--Tosser-Hiko Peak-Annabella complex, 5 to 40 percent slopes]

### Representative soil profile:

Horizon -- Depth (inches)	Texture	Available water capacity (inches)	pH	Salinity (mmhos/cm)	SAR
A1 -- 0 to 4	Very gravelly sandy loam	0.2 to 0.4	7.4 to 9.0	0.0 to 2.0	0 to 2
A2 -- 4 to 10	Gravelly fine sandy loam	0.5 to 0.8	7.9 to 9.0	0.0 to 2.0	0 to 2
Bkq1 -- 10 to 23	Very gravelly loamy sand	0.4 to 0.6	7.9 to 9.0	0.0 to 4.0	5 to 10
Bkq2 -- 23 to 37	Extremely gravelly sand	0.3 to 0.7	7.9 to 9.0	0.0 to 4.0	5 to 10
Bkq3 -- 37 to 60	Very gravelly loamy sand	0.5 to 1.1	7.9 to 9.0	0.0 to 4.0	5 to 10

*Ecological class(es):* NRCS Rangeland Site - Semidesert Gravelly Loam (Wyoming Big Sagebrush)  
South

### Characteristics of Hiko Peak and similar soils

*Average total avail. water in top 5 feet (in.):* 3.2

*Available water capacity class:* Low

*Parent material:* colluvium and slope alluvium derived from igneous rocks, limestone and quartzite

*Restrictive feature(s):* none

*Depth to Water table:* none within the soil profile

*Drainage class:* well drained

*Flooding hazard:* none

*Ponding hazard:* none

*Saturated hydraulic conductivity class:* High

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Land capability class, irrigated:*

*Land capability class, nonirrigated:*

*Hydric soil:* no

*Hydrologic group:* A

*Runoff class:*

*Potential frost action:* moderate

*Farm Class:* Not prime farmland

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## Brief Soil Descriptions (UT)

Sevier County Area, Utah

[OTE--Tosser-Hiko Peak-Annabella complex, 5 to 40 percent slopes]

**Representative soil profile:**

Horizon -- Depth (inches)	Texture	Available water capacity (inches)	pH	Salinity (mmhos/cm)	SAR
A -- 0 to 9	Very cobbly sandy loam	0.4 to 0.8	7.9 to 9.0	0.0 to 4.0	0
Bk -- 9 to 33	Very gravelly sandy loam	0.7 to 2.7	7.9 to 9.0	0.0 to 4.0	0 to 3
C -- 33 to 60	Very gravelly sandy loam	0.8 to 2.9	7.9 to 9.0	0.0 to 4.0	0 to 3

**Ecological class(es):** NRCS Rangeland Site - Semidesert Gravelly Loam (Wyoming Big Sagebrush) South

### Characteristics of Annabella and similar soils

**Average total avail. water in top 5 feet (in.):** 3.6

**Available water capacity class:** Low

**Parent material:** colluvium and slope alluvium derived from igneous and sedimentary rock

**Restrictive feature(s):** none

**Depth to Water table:** none within the soil profile

**Drainage class:** somewhat excessively drained

**Flooding hazard:** none

**Ponding hazard:** none

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 5

**Wind erodibility index (WEI):** 56

**Land capability class, irrigated:**

**Land capability class, nonirrigated:**

**Hydric soil:** no

**Hydrologic group:** A

**Runoff class:**

**Potential frost action:** moderate

**Farm Class:** Not prime farmland

**Saturated hydraulic conductivity class:** High

**Representative soil profile:**

Horizon -- Depth (inches)	Texture	Available water capacity (inches)	pH	Salinity (mmhos/cm)	SAR
A -- 0 to 3	Very cobbly sandy loam	0.1 to 0.3	7.9 to 8.4	0.0 to 2.0	0 to 5
C -- 3 to 60	Very gravelly sandy loam	1.7 to 6.2	7.9 to 9.0	0.0 to 4.0	0 to 5

**Ecological class(es):** NRCS Rangeland Site - Semidesert Gravelly Loam (Wyoming Big Sagebrush) South

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## Chemical Soil Properties

Sevier County Area, Utah

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[Absence of an entry indicates that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorption ratio
	<i>In</i>	<i>meq/100 g</i>	<i>meq/100 g</i>	<i>pH</i>	<i>Pct</i>	<i>Pct</i>	<i>mmhos/cm</i>	
B1:								
Torriorthents, north, north aspects	0-13 13-37 37-41	10-19 4.7-16 ---	--- --- ---	7.9 - 8.4 7.9 - 9.0 ---	15-30 20-40 ---	0-3 0-5 ---	0.0-2.0 2.0-4.0 ---	0 0-5 ---
Torriorthents, south, south aspects	0-20 20-24 24-28	17-33 --- ---	--- --- ---	7.9 - 9.6 --- ---	5-30 --- ---	1-5 --- ---	4.0-20.0 --- ---	9-13 --- ---
Haplogypsis	0-2 2-10 10-59 59-63	8.4-20 4.6-25 2.0-13 ---	--- --- --- ---	7.4 - 8.4 7.9 - 8.4 7.9 - 8.4 ---	10-30 10-30 20-40 ---	5-10 5-10 10-20 ---	2.0-8.0 2.0-8.0 4.0-16.0 ---	0-5 0-5 0-5 ---
GaC:								
Medburn	0-8 8-60	4.8-13 4.1-15	--- ---	7.9 - 8.6 7.9 - 8.6	3-40 3-40	0 0	2.0-4.0 2.0-4.0	0-5 0-5
Glenwood	0-5 5-19 19-26 26-60	7.3-16 7.0-14 0.0-11 0.0-8.5	--- --- --- ---	7.4 - 8.4 7.4 - 8.4 7.9 - 8.4 7.9 - 8.4	1-15 1-15 1-15 1-5	0 0 0 0	2.0-4.0 2.0-4.0 2.0-4.0 2.0-4.0	0-5 0-5 0-5 0-5
GP:								
Pits	---	---	---	---	---	---	---	---
MfC:								
Mellor, slightly saline	0-7 7-16 16-40 40-60	17-22 21-28 21-35 11-21	--- --- --- ---	7.9 - 9.0 9.0 - 11.0 9.0 - 11.0 9.0 - 11.0	5-15 10-20 15-30 15-30	0 0-2 0-2 0-2	2.0-8.0 8.0-32.0 16.0-32.0 16.0-32.0	5-13 13-40 13-40 13-40
NaB:								
Naser	0-10 10-60	11-22 4.7-18	--- ---	7.9 - 8.6 7.9 - 8.6	40-60 40-60	0-2 0-2	0.0-4.0 0.0-4.0	1-5 1-5
OTE:								
Tosser	0-4 4-10 10-23 23-37 37-60	4.0-13 5.0-12 2.0-4.0 2.0-4.0 2.0-4.0	--- --- --- --- ---	7.4 - 9.0 7.9 - 9.0 7.9 - 9.0 7.9 - 9.0 7.9 - 9.0	3-15 3-15 15-30 15-30 15-30	0-2 0-2 0-2 0-2 0-2	0.0-2.0 0.0-2.0 0.0-4.0 0.0-4.0 0.0-4.0	0-2 0-2 5-10 5-10 5-10
Hiko Peak	0-9 9-33 33-60	5.4-9.8 2.7-9.7 2.6-9.6	--- --- ---	7.9 - 9.0 7.9 - 9.0 7.9 - 9.0	3-30 15-40 3-30	0 0 0	0.0-4.0 0.0-4.0 0.0-4.0	0 0-3 0-3

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# Chemical Soil Properties

Sevier County Area, Utah

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Map symbol and soil name	Depth	Cation- exchange capacity	Effective cation- exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorption ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
<b>OTE:</b>								
Annabella	0-3	6.4-17	---	7.9 - 8.4	5-15	0	0.0-2.0	0-5
	3-60	5.5-16	---	7.9 - 9.0	5-15	0-5	0.0-4.0	0-5
<b>RaC:</b>								
Rapho	0-4	8.1-21	---	7.9 - 9.0	15-40	0-2	0.0-2.0	0-5
	4-59	5.6-13	---	7.9 - 9.0	40-60	0-2	0.0-2.0	0-5
Naser	0-10	11-22	---	7.9 - 9.0	40-60	0-2	0.0-4.0	1-5
	10-60	4.7-18	---	7.9 - 9.0	40-60	0-2	0.0-4.0	1-5
<b>SaC:</b>								
Sanpete	0-11	8.1-17	---	7.9 - 9.0	15-20	0	0.0-2.0	0
	11-47	6.8-18	---	7.9 - 9.0	40-70	0-2	0.0-2.0	0-5
	47-59	1.6-11	---	7.9 - 9.0	30-70	0-2	0.0-2.0	0-5
Lisade	0-5	9.2-16	---	7.9 - 9.0	20-50	0	0.0-2.0	0-1
	5-22	2.9-13	---	7.9 - 9.0	40-60	0	0.0-2.0	0-2
	22-34	3.4-13	---	7.9 - 9.0	40-60	0-2	2.0-4.0	2-13
	34-66	3.4-13	---	7.9 - 9.0	20-40	0-2	2.0-4.0	2-20
<b>SeC:</b>								
Sigurd	0-12	9.4-16	---	7.9 - 8.4	15-40	0-1	0.0-2.0	0-5
	12-49	3.4-13	---	7.9 - 9.0	40-60	0-1	0.0-2.0	0-10
Rapho	0-4	8.1-17	---	7.9 - 9.0	15-40	0-2	0.0-2.0	0-5
	4-59	5.6-13	---	7.9 - 9.0	40-60	0-2	0.0-2.0	0-5
<b>SMD2:</b>								
Sanpete	0-11	8.1-17	---	7.9 - 9.0	15-20	0	0.0-2.0	0
	11-47	6.8-18	---	7.9 - 9.0	40-70	0-2	0.0-2.0	0-5
	47-59	1.6-11	---	7.9 - 9.0	30-70	0-2	0.0-2.0	0-5
Lisade	0-5	9.2-16	---	7.9 - 9.0	20-50	0	0.0-2.0	0-1
	5-22	2.9-13	---	7.9 - 9.0	40-60	0	0.0-2.0	0-2
	22-34	3.4-13	---	7.9 - 9.0	40-60	0-2	2.0-4.0	2-13
	34-66	3.4-13	---	7.9 - 9.0	20-40	0-2	2.0-4.0	2-20

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## Physical Soil Properties

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Sevier County Area, Utah

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[Entries under "Erosion Factors--T" apply to the entire profile. Entries under "Wind Erodibility Group" and "Wind Erodibility Index" apply only to the surface layer. Absence of an entry indicates that data were not estimated. This report shows only the major soils in each map unit]

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erod- ibility group	Wind erod- ibility index
										Kw	Kf	T		

B1:

Torriorthents, north, north  
aspects

0-13	---	---	---	15-27	1.20-1.40	4.23-14.11	0.10-0.15	0.0-2.9	0.3-1.0	.24	.37	3	5	56
13-37	---	---	---	15-35	1.25-1.40	1.40-14.11	0.06-0.16	0.0-5.9	0.0-0.5	.24	.24			
37-41	---	---	---	---	---	0.00-1.41	---	---	---	---	---			

Torriorthents, south, south  
aspects

0-20	---	---	---	35-55	1.15-1.30	0.42-1.40	0.02-0.13	3.0-6.0	0.0-0.5	.10	.32	1	6	48
20-24	---	---	---	---	---	0.00-1.41	---	---	---	---	---			
24-28	---	---	---	---	---	0.00-0.42	---	---	---	---	---			

Haplogypsis

0-2	---	---	---	20-35	1.20-1.40	4.23-14.11	0.12-0.16	3.0-5.9	0.5-1.0	.20	.20	5	4L	86
2-10	---	---	---	10-45	1.10-1.50	0.42-42.34	0.06-0.18	0.0-8.9	0.5-1.0	.28	.28			
10-59	---	---	---	10-35	1.25-1.40	4.23-14.11	0.04-0.13	0.0-2.9	0.0-0.5	.24	.24			
59-63	---	---	---	---	---	0.00-1.41	---	---	---	---	---			

Gac:

Medburn

0-8	---	---	---	5-15	1.25-1.45	14.11-42.34	0.11-0.15	0.0-2.9	1.0-2.0	.32	.32	5	3	86
8-60	---	---	---	5-18	1.20-1.45	14.11-42.34	0.08-0.18	0.0-2.9	0.0-1.0	.32	.32			

Glenwood

0-5	---	---	---	8-20	1.25-1.40	14.11-42.34	0.10-0.14	0.0-2.9	1.0-2.0	.28	.28	2	3	86
5-19	---	---	---	10-18	1.15-1.40	14.11-42.34	0.10-0.17	0.0-2.9	0.5-1.5	.37	.37			
19-26	---	---	---	0-6	1.45-1.60	42.34-705.00	0.05-0.10	0.0-2.9	0.0-0.5	.28	.28			
26-60	---	---	---	0-5	1.45-1.60	141.00-705.00	0.02-0.05	0.0-2.9	0.0-0.5	.02	.05			

GP:  
Pits

---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

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Conservation Service**

Survey Area Version: 0

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Survey Area Version Date: 11/18/2009

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Page 1

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## Physical Soil Properties

Sevier County Area, Utah

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Map symbol and soil name		Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
											Kw	Kf	T		
MfC:															
Mellor, slightly saline	0-7	---	---	---	20-27	1.10-1.25	4.23-14.11	0.15-0.20	3.0-5.9	1.0-2.0	.49	.49	2	4L	86
	7-16	---	---	---	27-35	1.10-1.40	0.42-1.41	0.02-0.17	3.0-5.9	0.5-1.0	.43	.43			
	16-40	---	---	---	27-45	1.10-1.30	0.01-1.41	0.02-0.13	6.0-8.9	0.5-1.0	.43	.43			
	40-60	---	---	---	15-27	1.15-1.45	1.41-4.23	0.02-0.13	3.0-5.9	0.0-0.5	.55	.55			
NaB:															
Naser	0-10	---	---	---	15-27	1.10-1.25	4.23-14.11	0.17-0.21	0.0-2.9	1.0-2.0	.49	.49	5	4L	86
	10-60	---	---	---	18-27	1.10-1.45	4.23-14.11	0.14-0.20	0.0-2.9	0.0-1.0	.49	.49			
OTE:															
Tosser	0-4	---	---	---	5-10	1.15-1.50	14.11-42.34	0.04-0.09	0.0-2.9	1.0-2.0	.05	.17	4	6	48
	4-10	---	---	---	10-17	1.30-1.50	14.11-42.34	0.09-0.13	0.0-2.9	0.5-1.0	.17	.24			
	10-23	---	---	---	2-10	1.40-1.60	42.34-141.14	0.03-0.05	0.0-2.9	0.0-1.0	.05	.15			
	23-37	---	---	---	2-10	1.40-1.60	42.34-705.00	0.02-0.05	0.0-2.9	0.0-1.0	.02	.15			
	37-60	---	---	---	2-10	1.40-1.60	14.11-705.00	0.02-0.05	0.0-2.9	0.0-1.0	.10	.15			
Hiko Peak															
	0-9	---	---	---	10-18	1.25-1.45	14.11-42.34	0.04-0.09	0.0-2.9	1.0-2.0	.05	.20	5	6	48
	9-33	---	---	---	5-18	1.20-1.50	14.11-42.34	0.03-0.11	0.0-2.9	0.5-1.0	.05	.20			
	33-60	---	---	---	5-18	1.25-1.50	14.11-42.34	0.03-0.11	0.0-2.9	0.0-0.5	.05	.24			
Annabella															
	0-3	---	---	---	7-20	1.25-1.45	14.11-42.34	0.04-0.09	0.0-2.9	1.0-2.0	.05	.15	5	5	56
	3-60	---	---	---	7-20	1.30-1.60	14.11-42.34	0.03-0.11	0.0-2.9	0.0-0.5	.05	.24			
RaC:															
Rapho	0-4	---	---	---	10-25	1.15-1.35	4.23-14.11	0.13-0.18	0.0-2.9	1.0-2.0	.37	.37	2	4L	86
	4-59	---	---	---	8-18	1.20-1.50	14.11-42.34	0.07-0.15	0.0-2.9	0.5-1.0	.15	.24			
Naser															
	0-10	---	---	---	15-27	1.15-1.35	4.23-14.11	0.14-0.18	0.0-2.9	1.0-2.0	.49	.49	5	4L	86
	10-60	---	---	---	18-27	1.10-1.45	4.23-14.11	0.14-0.20	0.0-2.9	0.0-1.0	.49	.49			

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## Engineering Properties

Sevier County Area, Utah

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[Absence of an entry indicates that the data were not estimated. This report shows only the major soils in each map unit]

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Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
In Pct Pct												
B1: Torriorthents, north, north aspects	0-13	Channery loam	CL, GC	A-4, A-6	0-2	8-19	69-82	68-81	59-80	42-60	25-36	8-15
	13-37	Channery loam, parachannery clay loam, very parachannery sandy clay loam, sandy clay loam	CL, GC, SC	A-2, A-6, A-7	0	0-24	51-100	48-100	37-97	19-60	26-43	8-21
	37-41	Weathered bedrock	--	--	--	--	--	--	--	--	--	--
	0-20	Very channery clay, very channery silty clay, very channery silty clay loam	CH, GC	A-2, A-7	0-1	17-26	41-58	39-57	35-57	33-57	44-63	22-40
	20-24 24-28	Weathered bedrock Bedrock	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --	-- --
Haplogypsis	0-2	Sandy clay loam	CL, SC	A-6, A-7	0	0-6	88-100	87-100	71-97	39-60	30-47	11-25
	2-10	Clay, gravelly sandy loam, loam	CH, CL, SC-SM	A-4, A-7	0	0-6	87-100	87-100	54-98	39-80	21-57	4-33
	10-59	Parachannery loam, very parachannery loam, very parachannery sandy clay loam	CL, SC, SC-SM	A-2, A-6, A-7	0	0-3	94-100	85-100	60-96	29-59	21-43	4-21
	59-63	Weathered bedrock	--	--	--	--	--	--	--	--	--	--
GaC: Medburn	0-8	Fine sandy loam	CL, SC-SM, SM	A-2-4, A-4	0	0	83-100	74-100	66-99	31-52	18-31	2-10
	8-60	Fine sandy loam, gravelly loam, loam, sandy loam	SC, SC-SM, SM	A-2-4, A-4, A-6	0	0-15	62-100	60-100	51-98	22-50	16-31	2-12

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# Engineering Properties

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Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
In												
GaC: Glenwood	0-5	Fine sandy loam	CL, SC-SM	A-4, A-6	0	0	91-100	82-100	75-100	37-57	21-34	4-12
	5-19	Fine sandy loam, loam, very fine sandy loam	CL, SC-SM	A-2-4, A-4, A-6	0	0	91-100	73-100	70-100	33-53	21-31	6-11
	19-26	Fine sand, loamy fine sand, sand	SM	A-2-4	0	0	92-100	77-100	71-98	21-34	0-19	NP-3
	26-60	Very gravelly coarse sand, very gravelly loamy sand, extremely gravelly sand	GP	A-1-a	0	0-17	44-53	27-46	11-21	1-4	0-19	NP-2
Pct												
GP: Pits												
MfC: Mellor, slightly saline	0-7	Silt loam	CL	A-6, A-7	0	0	100	100	96-100	92-99	31-4113-19	
	7-16	Clay loam, silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	91-99	36-4716-25	
	16-40	Silty clay, silty clay loam	CH, CL	A-6, A-7	0	0	100	100	91-100	85-100	36-5216-29	
	40-60	Silt loam, very fine sandy loam	CL	A-4, A-6	0	0	100	100	95-100	88-100	26-36	8-15
Pct												
NaB: Naser	0-10	Silt loam	CL, CL-ML	A-4	0	0	100	100	93-100	86-98	21-30	6-10
	10-60	Loam, silt loam, very fine sandy loam	CL, CL-ML	A-4	0	0	100	100	95-100	91-100	23-30	7-10

GP:

Pits

MfC:

Mellor, slightly saline

NaB:

Naser

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## Engineering Properties

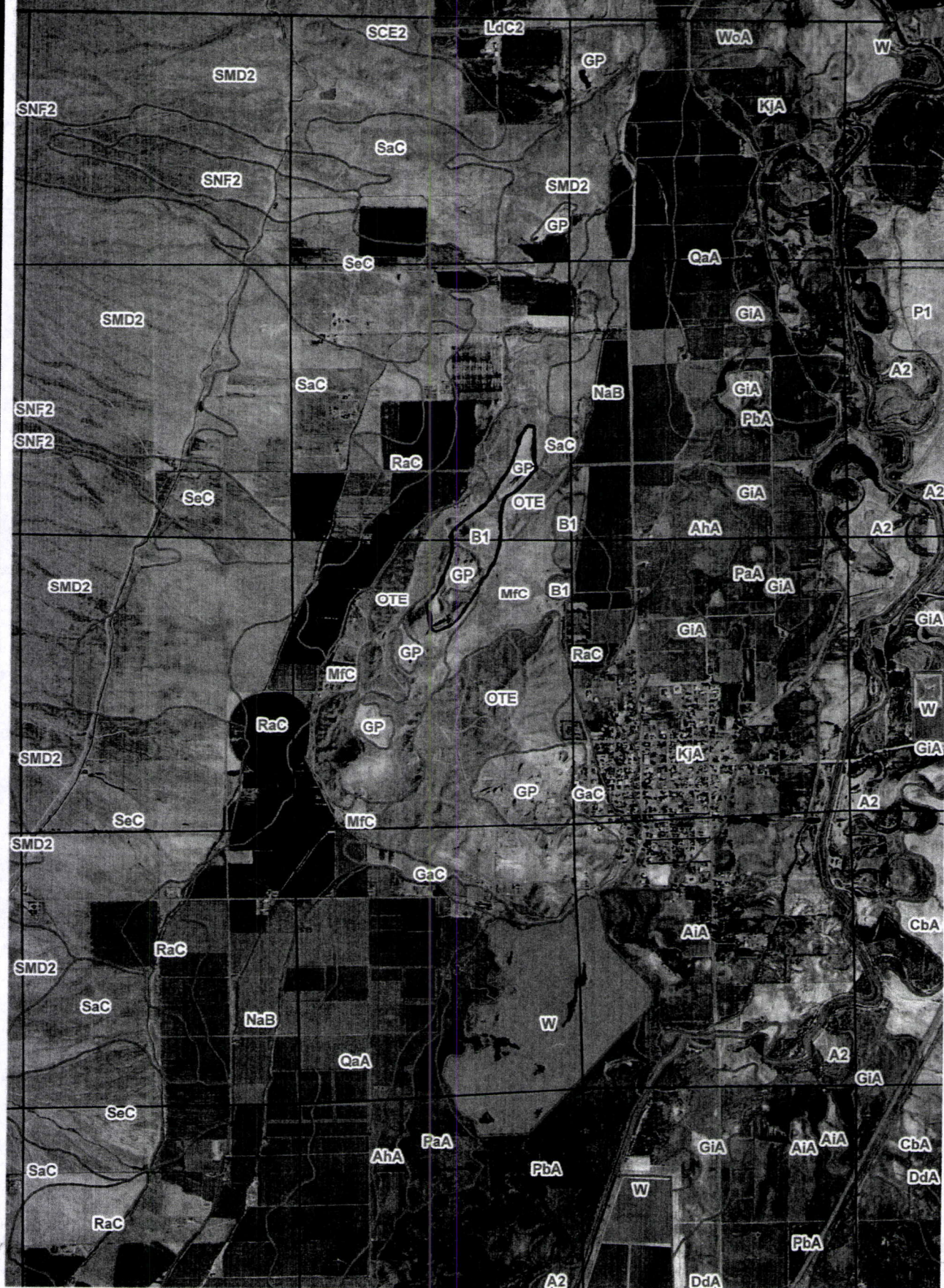
Sevier County Area, Utah

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percent passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 Inches	3-10 Inches	4	10	40	200		
In			Pct		Pct		Pct				Pct	
OTE: Tosser	0-4	Very gravely sandy loam	GC-GM, GW-GM	A-1	0	0	42-48	23-46	17-36	8-18	18-26	2-6
	4-10	Gravelly fine sandy loam	SC, SC-SM	A-1, A-2	0	0	66-75	46-75	41-72	17-32	21-30	6-11
	10-23	Very gravely loamy sand	GC-GM, GW- GM, SM	A-1	0	0	48-59	26-51	19-43	7-18	0-21	NP-4
	23-37	Very cobbly loamy sand, very cobbly sand, extremely gravely loamy sand, extremely gravely sand	GP, GP-GC, GW	A-1	0	0-38	33-49	12-36	9-30	1-6	0-21	NP-4
	37-60	Very cobbly loamy sand, very cobbly sand, very gravely loamy sand, extremely gravely sand	GC-GM, GM, GW-GM	A-1	0	0-40	42-57	19-50	14-42	5-17	0-21	NP-4
Hiko Peak	0-9	Very cobbly sandy loam	SC, SC-SM	A-1, A-2	0	29-49	60-77	40-77	29-62	14-33	21-33	4-12
	9-33	Very cobbly loam, extremely cobbly sandy loam, very gravely sandy loam, extremely gravely sandy loam	GC-GM, GW- GM, SC	A-1, A-2	0	22-41	36-72	22-62	15-50	7-27	16-28	2-9
	33-60	Very cobbly loam, extremely cobbly sandy loam, very gravely sandy loam, extremely gravely sandy loam	GC-GM, GW- GM, SC	A-1, A-2	0	22-41	36-72	22-62	15-50	7-27	16-33	2-12
Annabella	0-3	Very cobbly sandy loam	SC, SM	A-1, A-2	0-12	22-31	70-88	40-77	29-64	13-35	20-35	3-12
	3-60	Very cobbly coarse sand, very cobbly loamy sand, very gravely loam, very gravelly sandy loam	GC	A-1, A-2	0-6	0-30	41-50	28-50	20-41	9-23	18-32	3-12

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## DIV. OIL GAS & MINING



## RECLAMATION SURETY ESTIMATE - D8R

Western Clay

Bentonite Pits

M041/0012

Prepared by Utah State Division of Oil, Gas &amp; Mining

Reclamation Details

last revision

4/1/2010

file: MINE-BOND-M0410012.xls

page "estimate D8"

Sevier

**Note: actual unit costs may vary according to site conditions****last unit cost update****04/01/10****-Amount of disturbed area which will receive reclamation treatments =****68 acres****-Estimated total disturbed area for this mine =****68 acres**

Activity	Quantity	Units	\$/unit	\$
Safety gates, signs, etc (mnts & installation)	1	sum	600	600
Demolition of buildings & facilities	0	CF	0.35	0
Debris & equipment removal - trucking	0	trips	73.00	0
Debris & equipment removal - dump fees	0	ton	99.00	0
Debris & equipment removal - loading trucks w/FE loader	0	hour	248.00	0
Demolition & debris removal - general labor	0	hour	51.05	0
Regrading facilities areas - D8R (2ft depth)	0	acre	1288.01	0
Regrading - D8R dozer COST PER HOUR	0	hour	357.78	0
Regrading waste dump slopes - D8R dozer	0	CY	0.67	0
Ripping waste dump tops - D8R dozer	0	acre	597.62	0
Ripping stockpile & compacted areas - D8R dozer	14.5	acre	597.62	8665
Ripping pit floors - D8R dozer	0	acre	597.62	0
Ripping pit access roads - D8R dozer (2ft depth)	1.1	acre	1017.83	1120
Ripping - D8R dozer COST PER HOUR	4	hour	426.87	1707
Creating safety berms or barriers around highwalls -D8R	0	LF	0.21	0
Ripping access roads- D8R dozer	0	acre	597.62	0
Regrading access roads - D8R dozer	0	acre	644.00	0
Sidecast mtl replacement of steep slopes - trackhoe	0	LF	38.02	0
Sidecast mtl replacement- trackhoe COST PER HOUR	0	hour	380.17	0
Surface drainage restoration or construction	0	LF	0.24	0
Overburden for pit fill	338711	CY	0.85	287904
Topsoil replacement - D8R dozer	28500	CY	0.85	24270
Topsoil replacement - scraper	0	CY	1.15	0
Topsoil replacement - scraper COST PER HOUR	0	hour	440.78	0
Topsoil replacement - truck only, 2 mi round trip	0	CY	3.55	0
Topsoil replacement - loading trucks - FE loader	0	CY	0.69	0
Topsoil replacement - FE loader COST PER HOUR	0	hour	172.05	0
Mulching (2 ton/acre alfalfa/straw)	0	acre	400.00	0
Fertilizing (100 lb/acre diammonium phosphate)	0	acre	100.00	0
Composted manure (10 ton/acre)	33.6	acre	350.00	11760
Broadcast seeding	33.6	acre	280.00	9408
Drill Seeding	0	acre	280.00	0
Hydroseeding	0	acre	930.00	0
General site cleanup & trash removal	0	acre	100.00	0
Equipment mobilization	0	equip	3000	0
Reclamation supervision -10% of reclamation estimate		Subtotal		345435
10% Contingency		Subtotal		34543
Escalate for 5 years at 0.50% per year		Subtotal		379978
		Subtotal		37998
		Subtotal		417976
		Subtotal		10554
		Total		428530
Rounded surety amount in year 2015 \$				<b>\$428,500</b>
Average cost per disturbed acre =				6302

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VIII. RULE R647-4-112 VARIANCE

3/26/10

Rule #2 (Backfilling Pits) as per R647-4-111 (Reclamation Practices)

Western Clay Company's goal is to backfill our pits to as close to the original contours as possible. Material for backfilling our pits will be waste rock and low grade bentonite produced from our mining operation. These waste materials are in close proximity to the pits and can be used to fill the pits with a minimal amount of effort. Additional material for backfilling will also be generated from waste sand produced at our plant as a byproduct of our process. This waste material accounts for 1/3 of total mined product. This material will be transported back to the mines for backfilling. Other sources of backfill material will also be created from future mining. Our mine plan requires mined out pits will be reclaimed as new pits are being opened. These new mines would also produce additional waste material that could be used to backfill exhausted pits if needed. In the event that certain pits are not reclaimed to the original contour level pit slopes will not exceed a 3 to 1 slope. This minimal requirement is reflected in our mine profile maps. Any impoundments that remain will be at ground level. Our observations and history at this mine area demonstrates that water impounding is minimal.

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Ref. - R647-4-105  
105.3

Mine Pit Areas  
and Cross Sections

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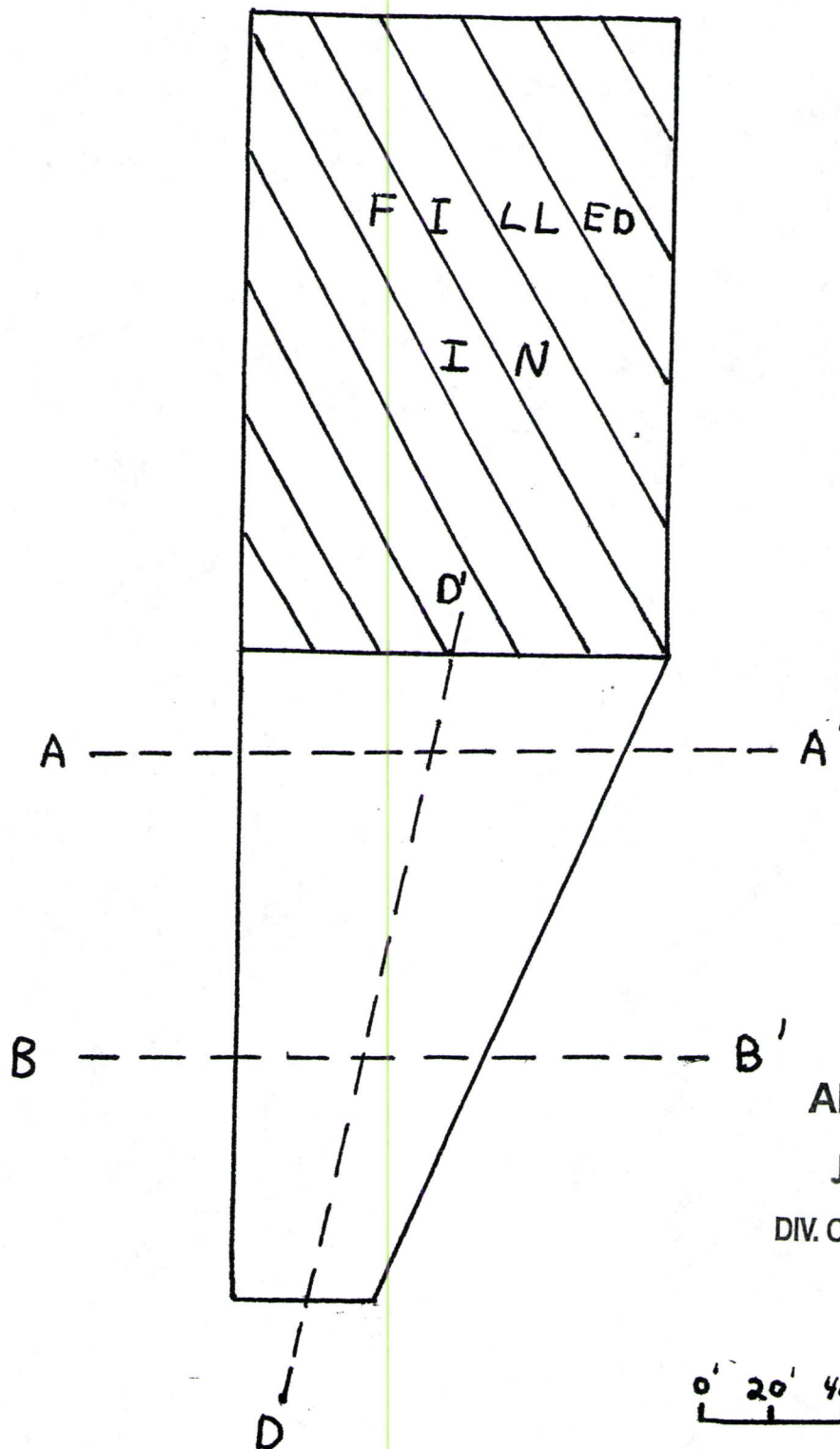
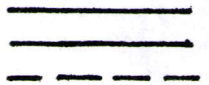
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NORTH

SHEEP TRAIL SOUTH  
CURRENT STATUS  
2/17/10

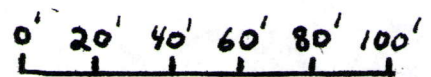
CURRENT MINE AREA  
PROPOSED MINE AREA  
CROSS SECTIONS



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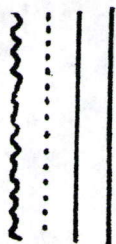
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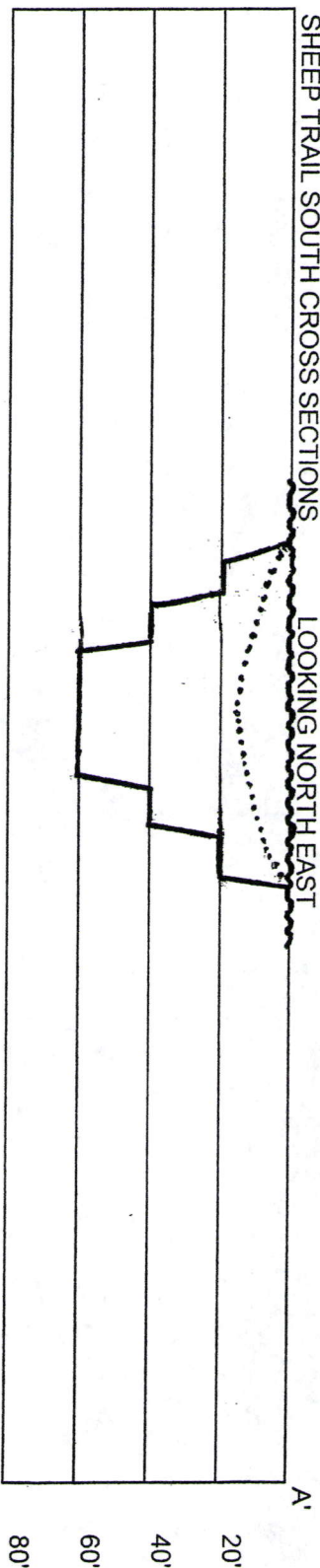
SHEEP TRAIL SOUTH CROSS SECTIONS  
2/12/10

NORTH

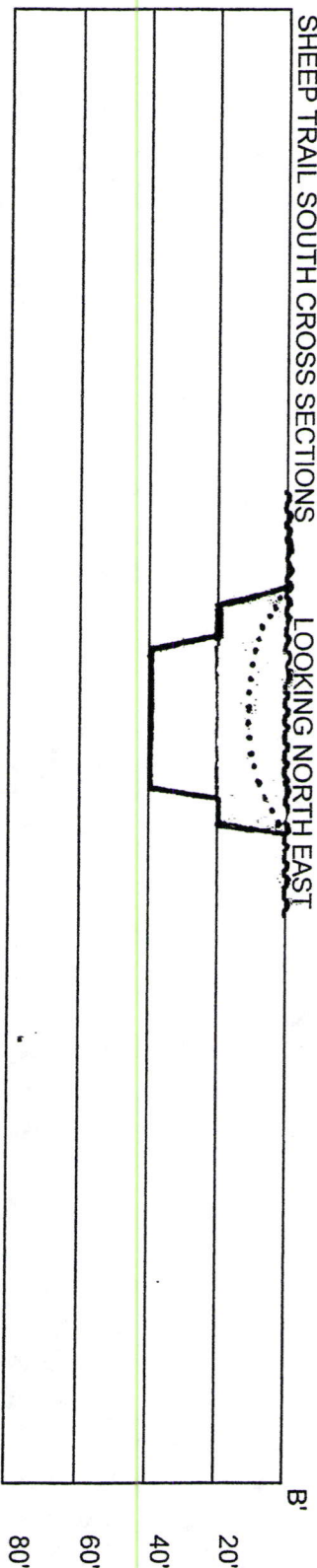
CURRENT MINE PROFILE  
PROPOSED MINE PROFILE  
PROPOSED RECLAMATION  
NATURAL CONTOUR



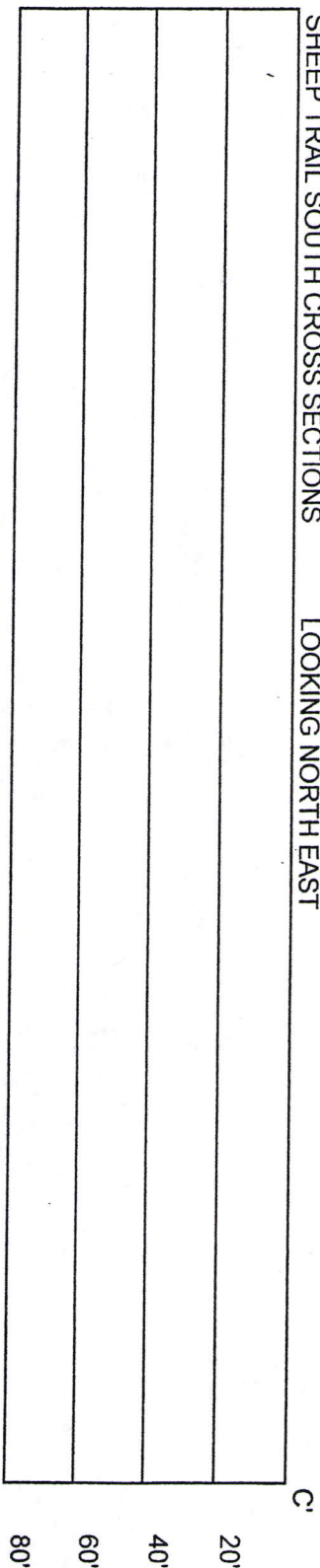
A SHEEP TRAIL SOUTH CROSS SECTIONS



B SHEEP TRAIL SOUTH CROSS SECTIONS



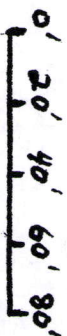
C SHEEP TRAIL SOUTH CROSS SECTIONS



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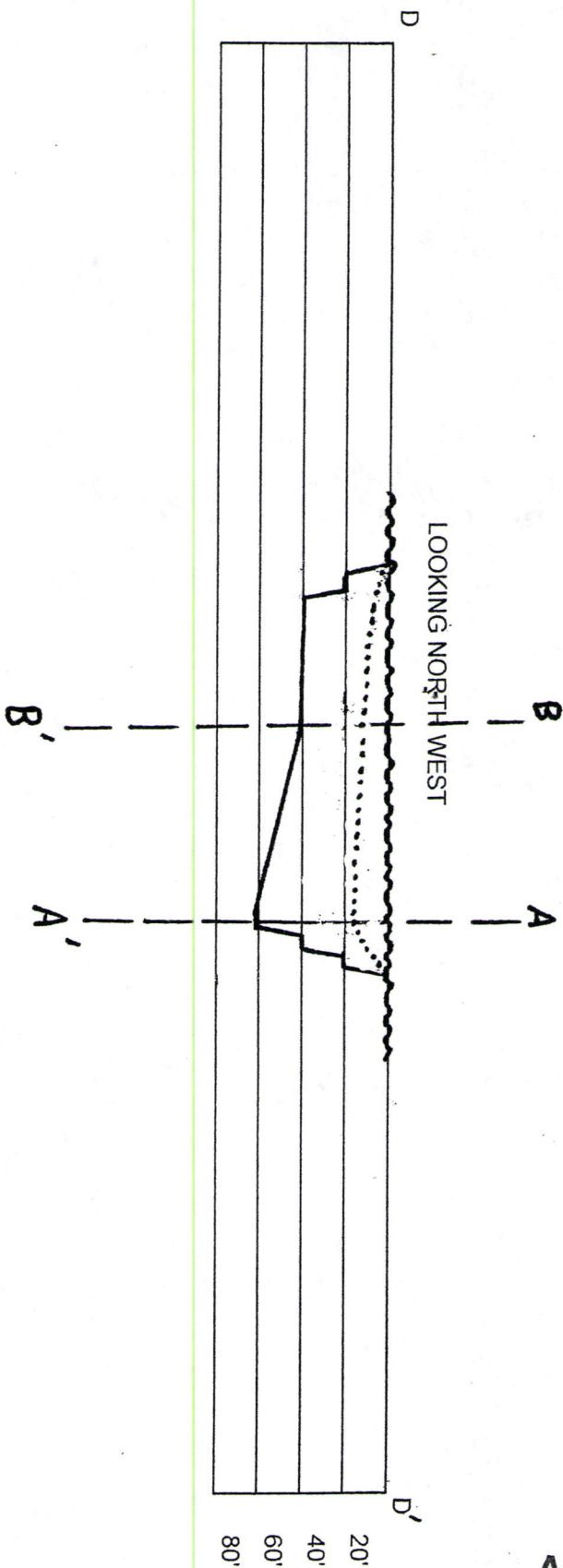
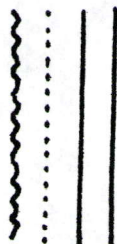
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SHEEP TRAIL SOUTH  
LONGITUDINAL CROSS SECTIONS  
2/15/10



CURRENT MINE PROFILE  
PROPOSED MINE PROFILE  
PROPOSED RECLAMATION  
NATURAL CONTOUR



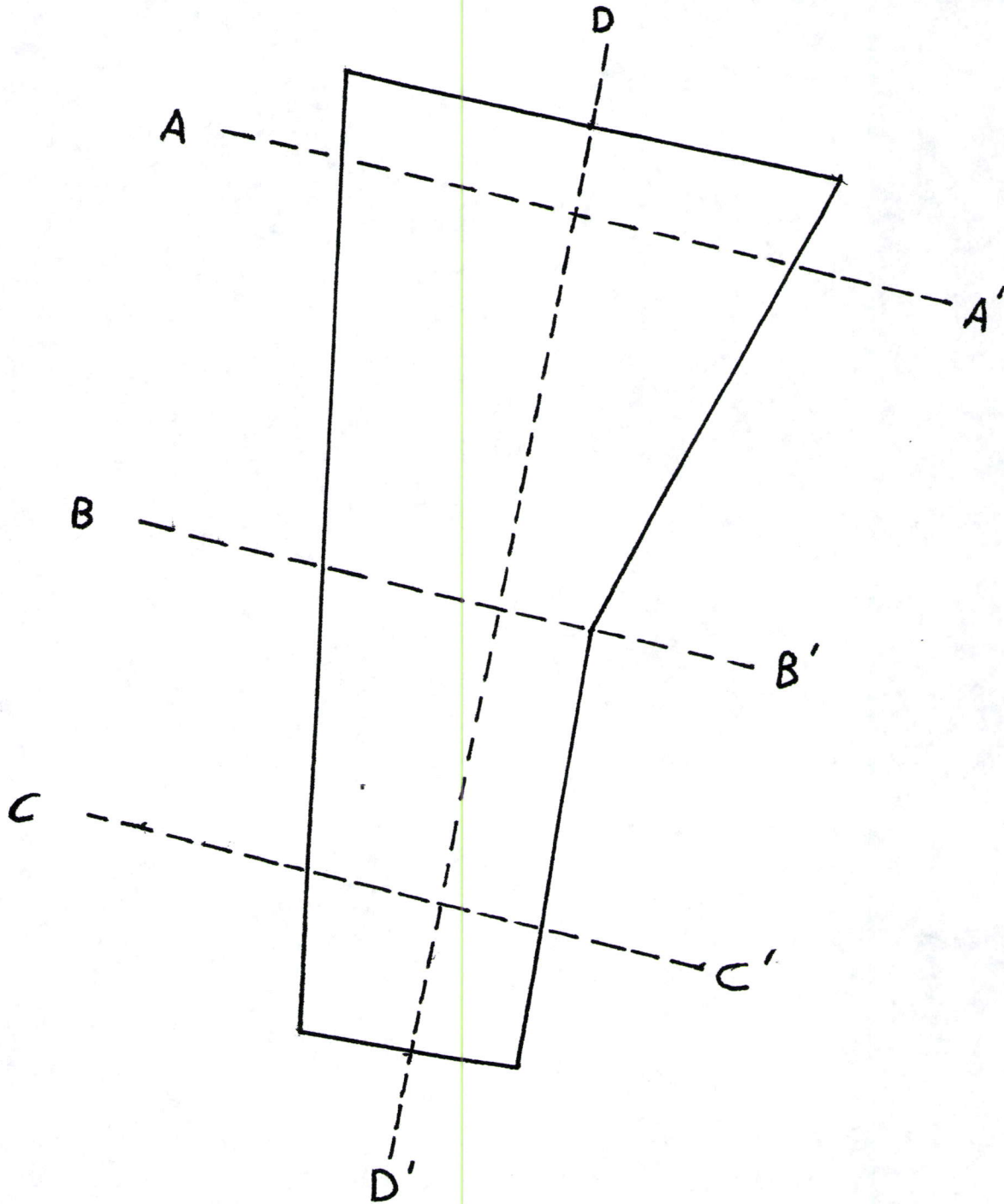
0' 20' 40' 60' 80' 100'

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NORTH

SHEEP TRAIL FLAT  
CURRENT STATUS  
2/17/10

CURRENT MINE AREA  
PROPOSED MINE AREA  
CROSS SECTIONS



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0' 50' 100' 150' 200'

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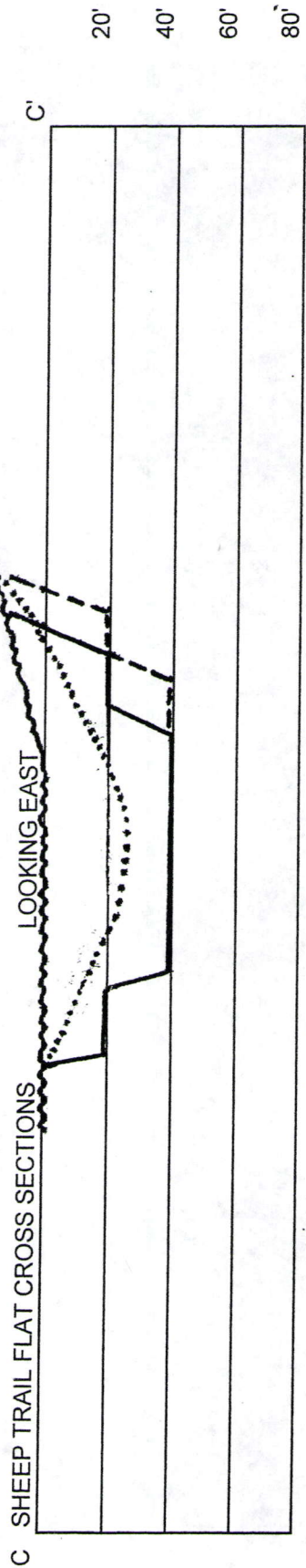
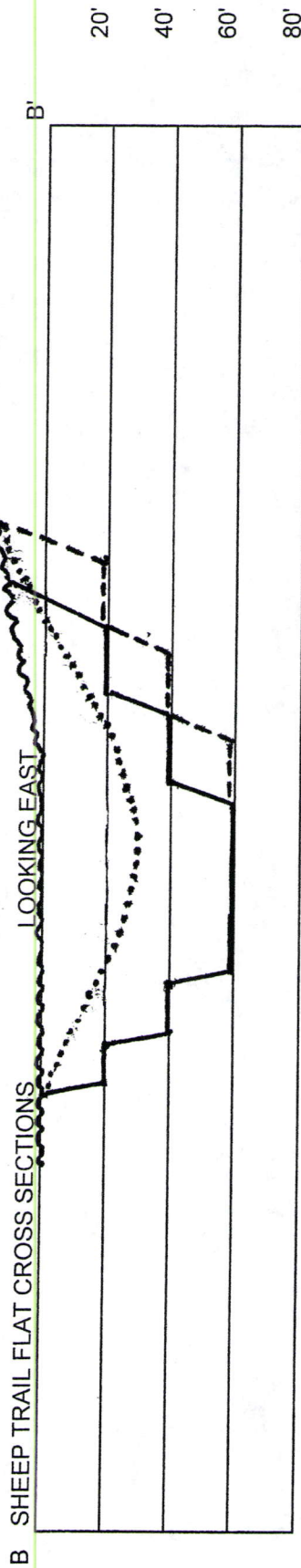
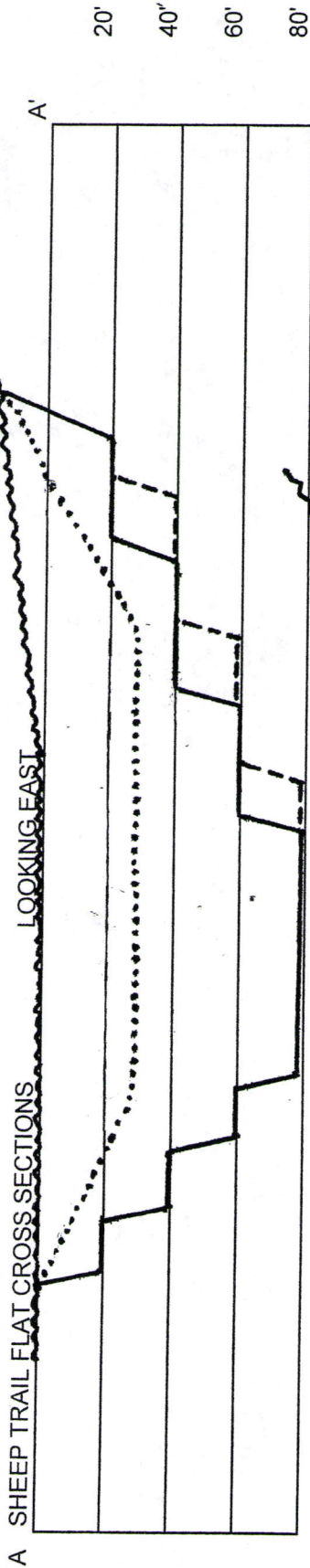
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SHEEP TRAIL FLAT CROSS SECTIONS  
2/12/10

NORTH

CURRENT MINE PROFILE  
PROPOSED MINE PROFILE  
PROPOSED RECLAMATION  
NATURAL CONTOUR

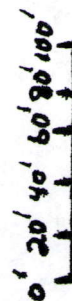
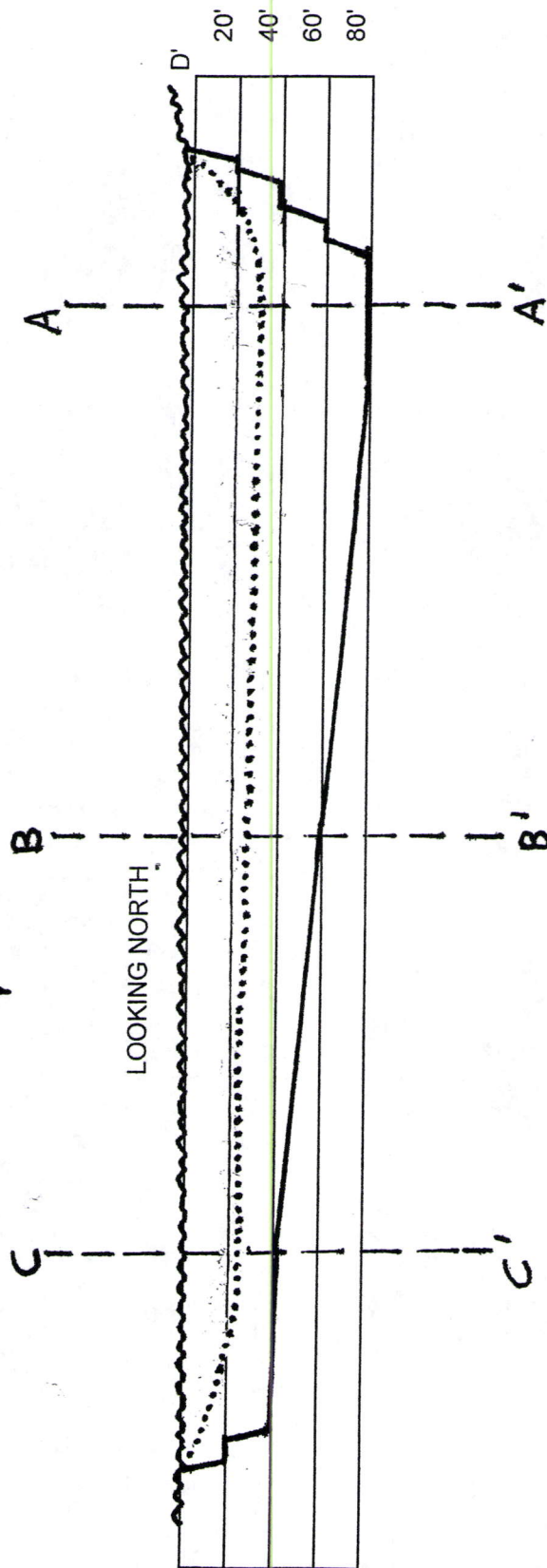


0' 20' 40' 60' 80' 100'

SHEEP TRAIL FLAT  
LONGITUDINAL CROSS SECTIONS  
2/15/10

NORTH

CURRENT MINE PROFILE  
PROPOSED MINE PROFILE  
PROPOSED RECLAMATION  
NATURAL CONTOUR



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JUN 07 2010

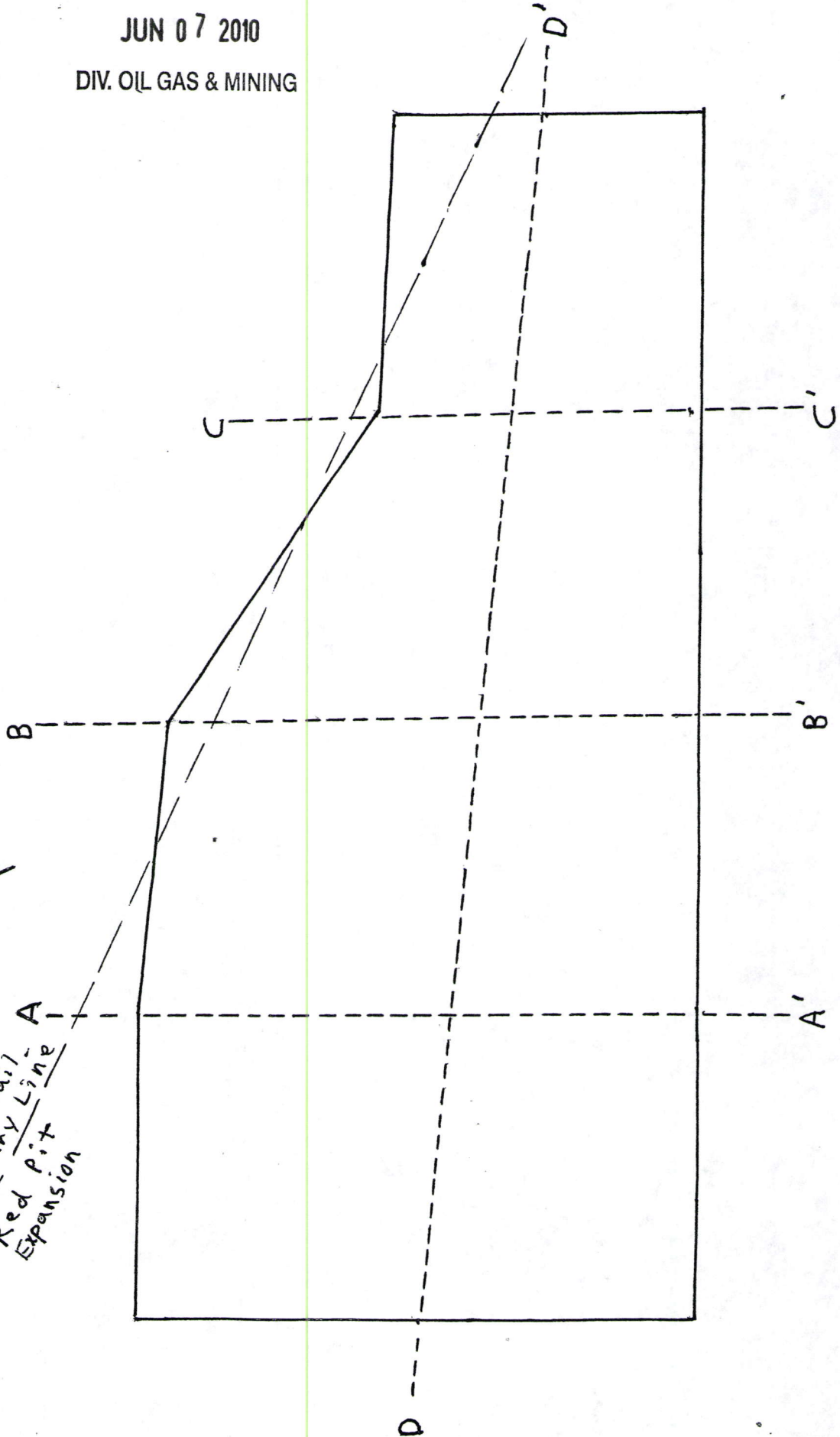
DIV. OIL GAS & MINING

CURRENT MINE AREA NONE  
PROPOSED MINE AREA  
CROSS SECTIONS

NORTH

RED PIT EXPANSION  
CURRENT STATUS  
2/17/10

Sheep Trail - A  
Boundary Line  
Red Pit Expansion



100' 200' 300'

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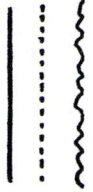


RED PIT EXPANSION  
CROSS SECTIONS  
2/17/10

D

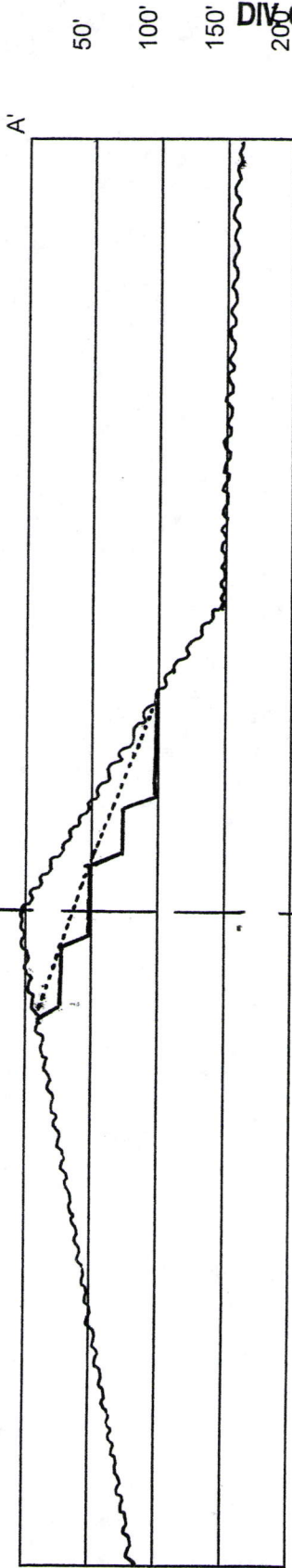
CURRENT MINE PROFILE  
PROPOSED MINE PROFILE  
PROPOSED RECLAMATION  
NATURAL CONTOUR

NONE



LOOKING NORTH WEST

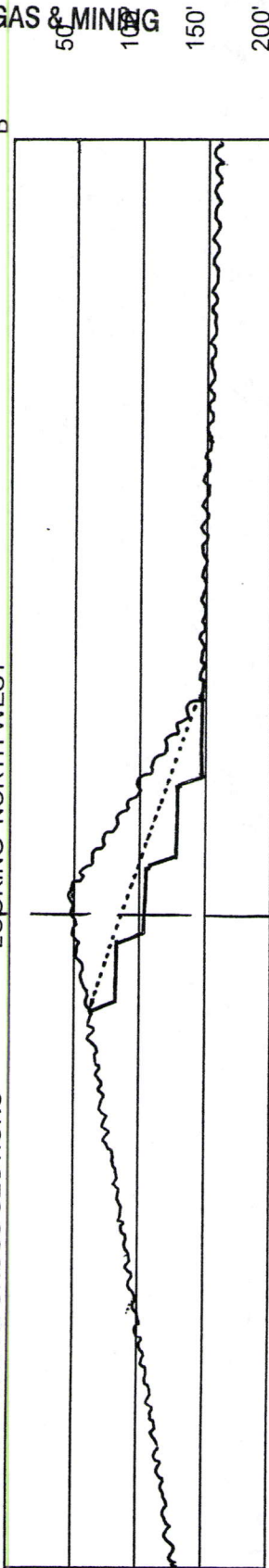
A



B RED PIT EXPANSION CROSS SECTIONS

LOOKING NORTH WEST

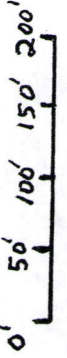
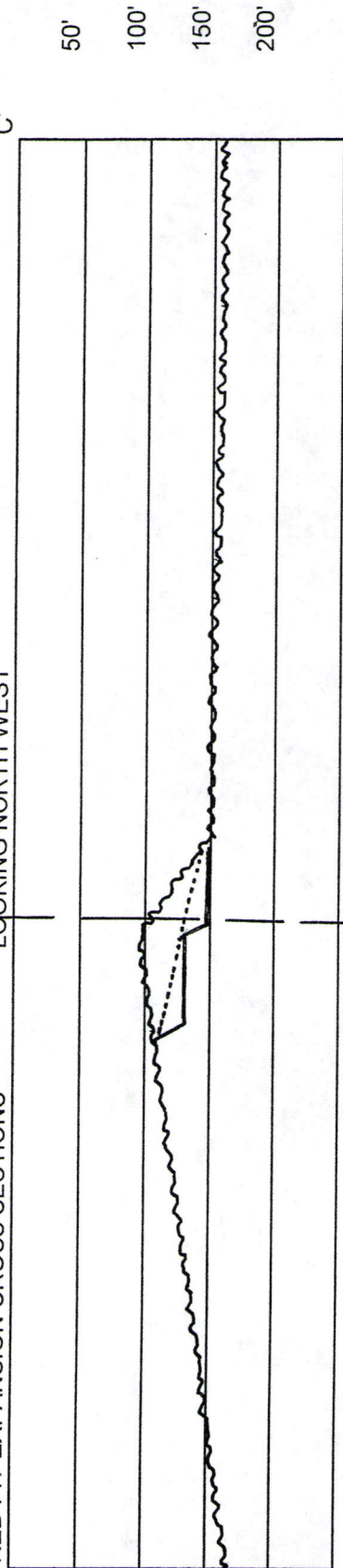
B'



C RED PIT EXPANSION CROSS SECTIONS

LOOKING NORTH WEST

C'

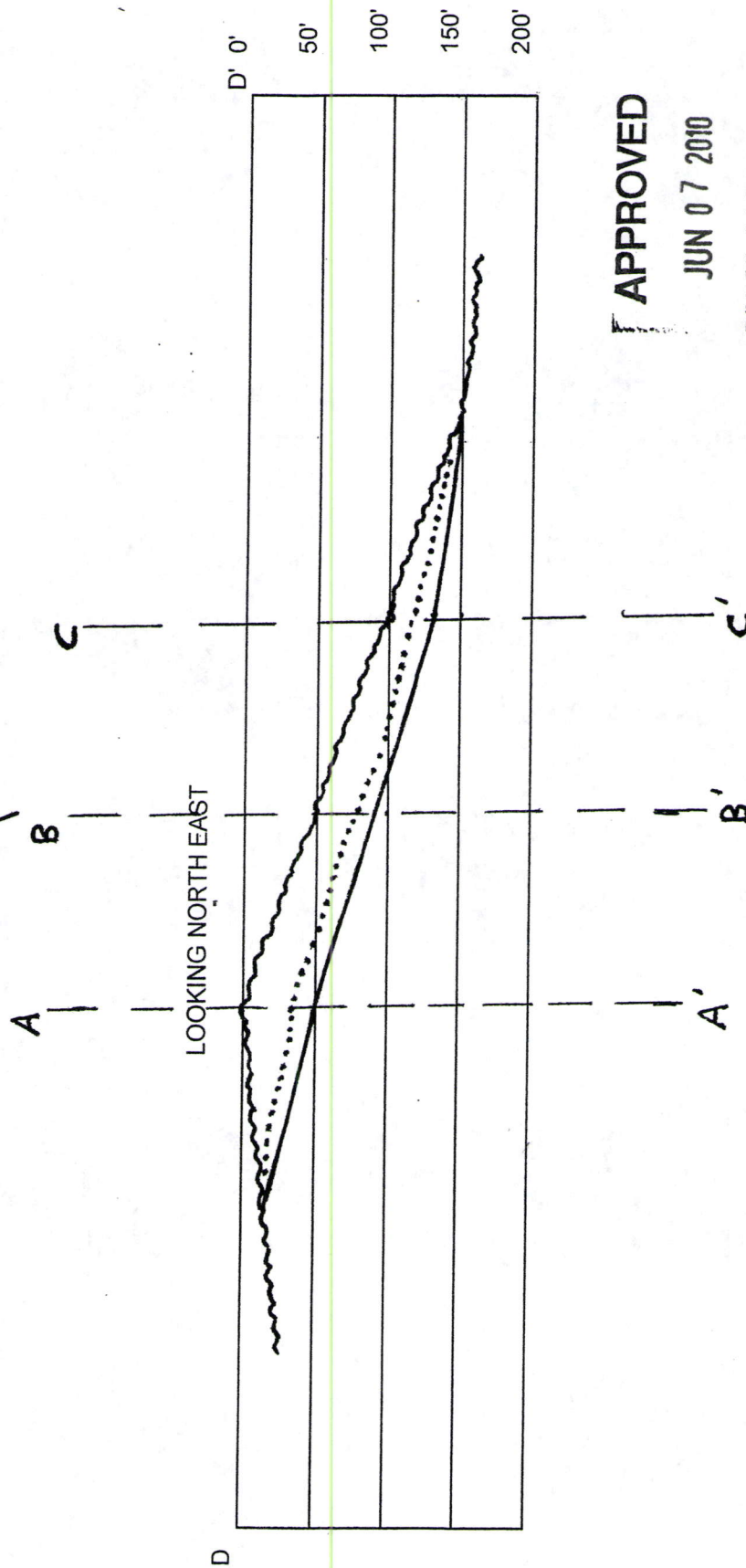


NORTH SLOPE  
LONGITUDINAL CROSS SECTIONS  
2/15/10

CURRENT MINE PROFILE  
PROPOSED MINE PROFILE  
PROPOSED RECLAMATION  
NATURAL CONTOUR

**NONE**

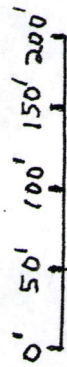
**NORTH**



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JUN 07 2010

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NORTH SLOPE  
CURRENT STATUS  
2/15/10

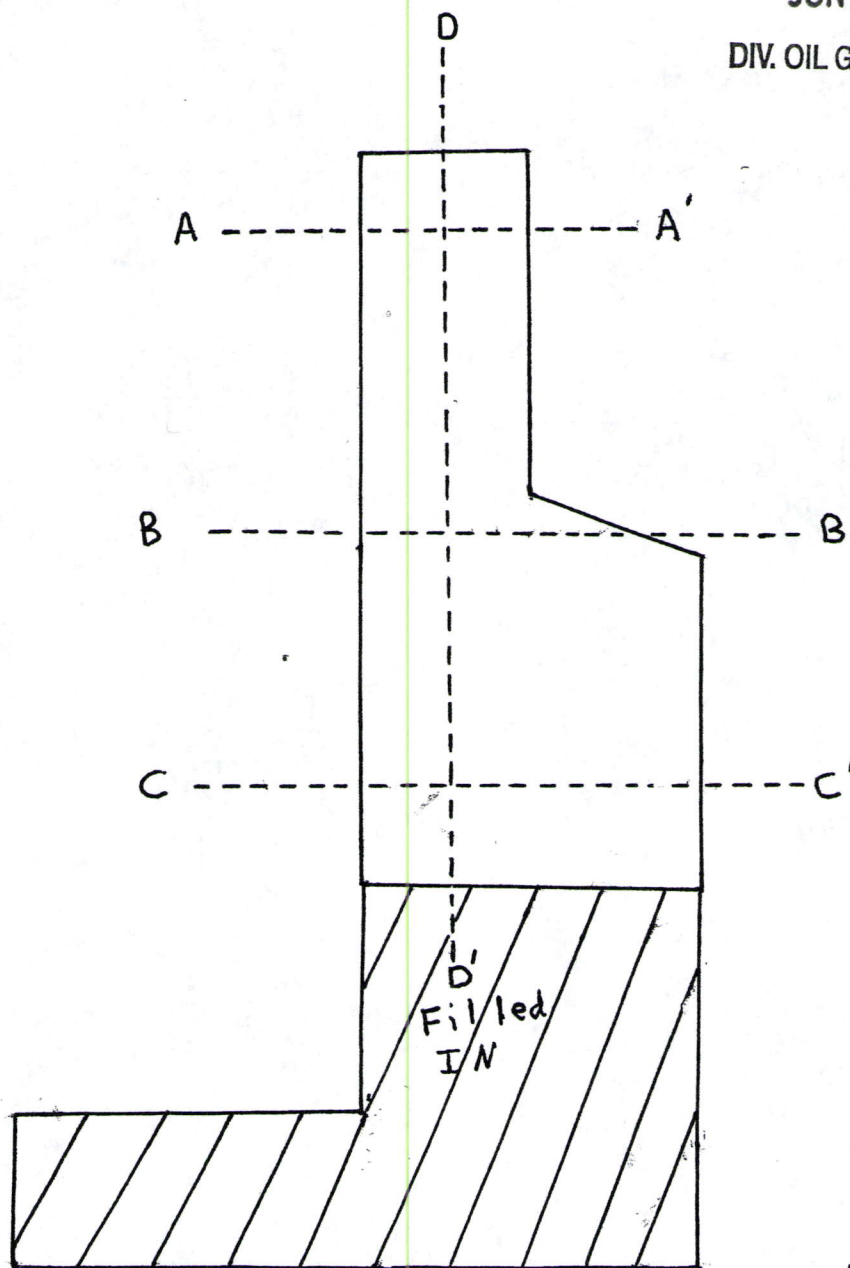


CURRENT MINE AREA    \_\_\_\_\_  
PROPOSED MINE AREA    \_\_\_\_\_  
CROSS SECTIONS        - - - - -

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0' 50' 100' 150' 200'

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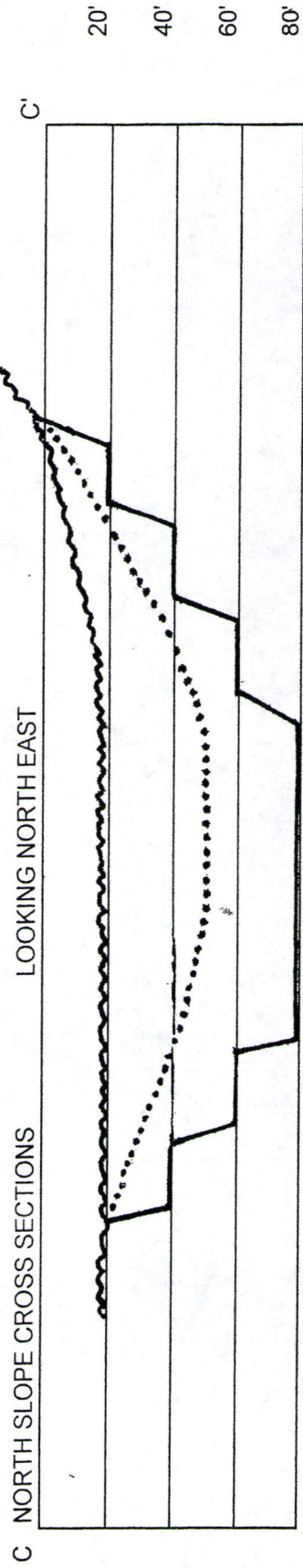
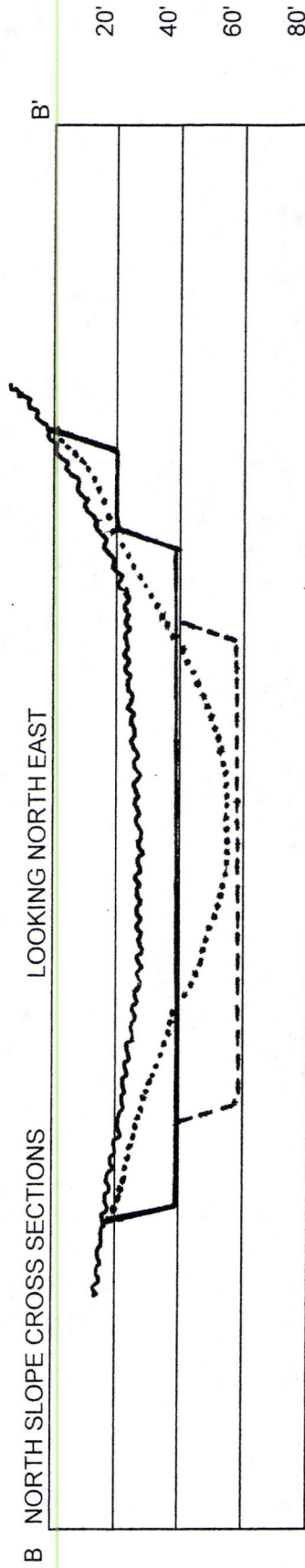
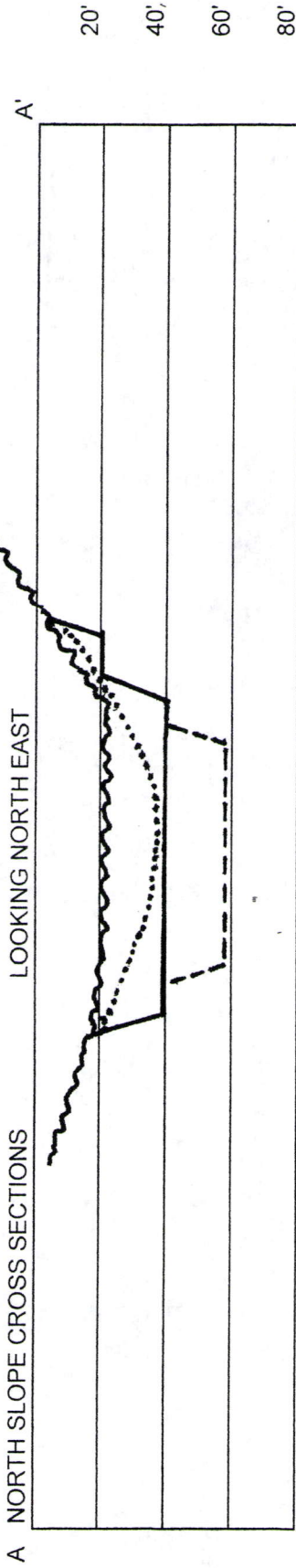
JUN 07 2010

DIV. OF GAS & MINING

CURRENT MINE PROFILE  
PROPOSED MINE PROFILE  
PROPOSED RECLAMATION  
NATURAL CONTOUR

NORTH

NORTH SLOPE CROSS SECTIONS  
2/12/10

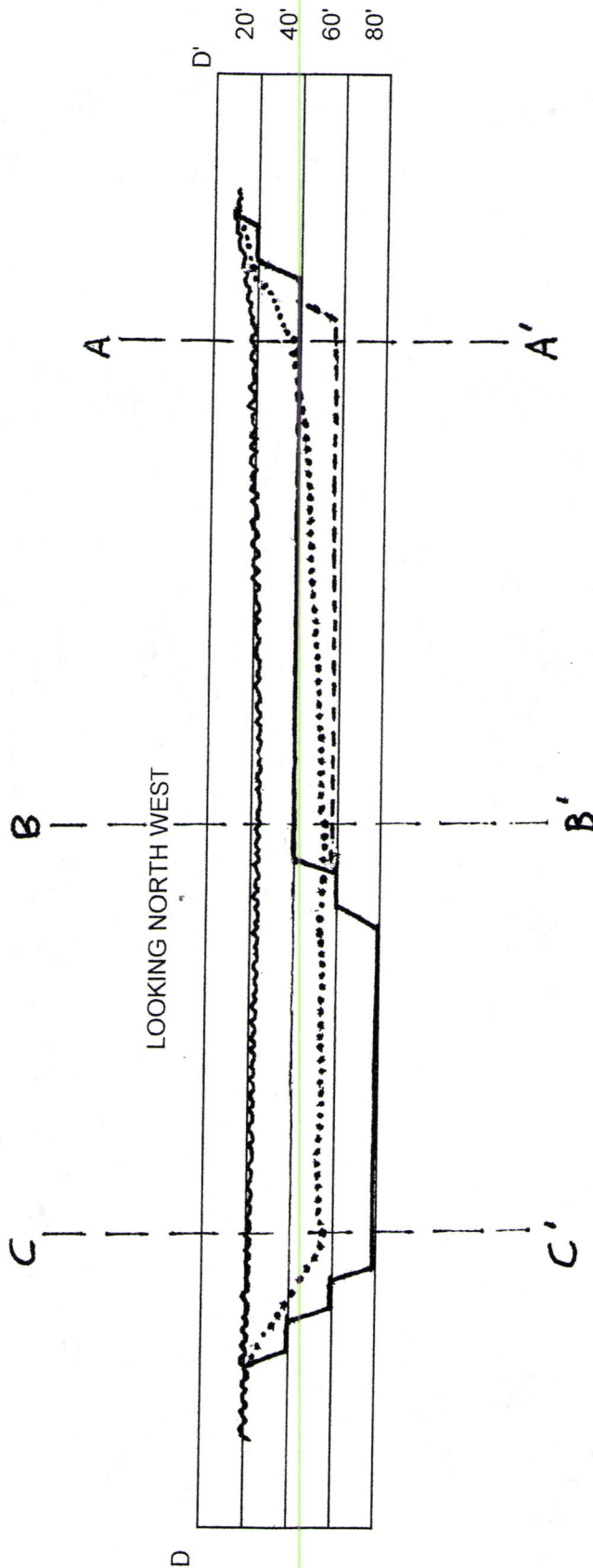


0' 20' 40' 60' 80' 100'

NORTH SLOPE  
LONGITUDINAL CROSS SECTIONS  
2/15/10



CURRENT MINE PROFILE  
PROPOSED MINE PROFILE  
PROPOSED RECLAMATION  
NATURAL CONTOUR

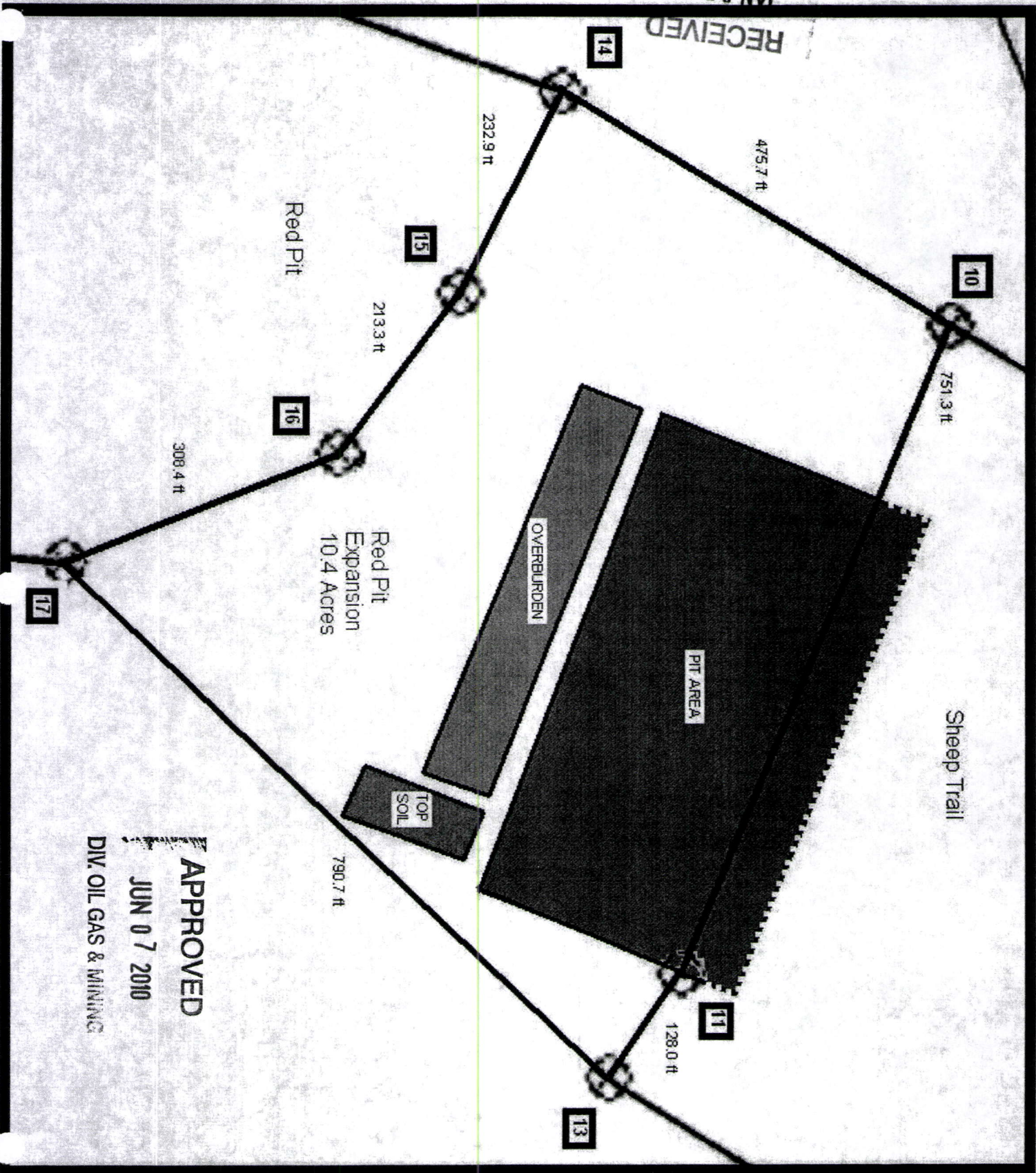


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# Red Pit Expansion Surface Facility Map



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Ref. - R 647-4-104  
Replacement Page 3

5. Location of Operation:

County(ies) Sevier

Portions	of	NE	1/4, Section: 2	Township: T21S	Range: R1W
Portions	of	NE	1/4, Section: 2	Township: T21S	Range: R1W
Portions	of	S.E.	1/4, Section: 35	Township: T20S	Range: R1W

The names of the surface and mineral owners for any areas which are to be impacted by mining must be provided to the Division. This list should include all private, state and federal ownership and the owners of lands immediately adjacent to the project areas.

6.

Ownership of the land surface (circle all that apply):

(X)Private (Fee), Public Domain (BLM), National Forest (USFS) (X)State of Utah (SITLA)

other:

Name: Western Clay Company Address: 620 East SR-24, Aurora, Utah 84620  
Name: State of Utah Address: \_\_\_\_\_  
Name: \_\_\_\_\_ Address: \_\_\_\_\_  
Name: \_\_\_\_\_ Address: \_\_\_\_\_

7.

Owner(s) of record of the minerals to be mined (circle all that apply):

(X)Private (Fee), Public Domain (BLM), National Forest (USFS) (X)State of Utah (SITLA)

other:

Name: Western Clay Company Address: 620 East SR-24, Aurora, Utah 84620  
Name: State of Utah Address: \_\_\_\_\_  
Name: \_\_\_\_\_ Address: \_\_\_\_\_  
Name: \_\_\_\_\_ Address: \_\_\_\_\_

8.

BLM Lease or Project File Number(s) and/or USFS Assigned Project Number(s):

BLM Claim Numbers: Utah

State Lease Number(s): ML 1937

Name of Lessee(s): Western Clay Company

9.

Adjacent land owners:

Name: Ken Kirby, Lynn Nelson Address: 4150 N. 100 W. Redmond, Utah  
Name: Gary & Susan Carlisle Address: 126 W. Main St., Redmond, Utah  
Name: Terrel & Rhea Nelson Address: 305 S. 100 E. Redmond, Utah

10. Have the land, mineral and adjacent land owners been notified in writing?

Yes X No \_\_\_\_\_

If no, why not? \_\_\_\_\_

11. Does the Permittee / Operator have legal right to enter and conduct mining operations on the land covered by this notice? Yes X No \_\_\_\_\_

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JAN 25 2010

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## **Appendix 8**

### **Revegetation Plan March 1<sup>st</sup> 2002**

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**MAR 28 2002**

**DIV. OIL GAS & MINING**

## **Revegetation Plan March 1<sup>st</sup> 2002**

When the company does reseeding the emphasis will be put on getting browse plants established. The recommended seed mix is on page 2 of this appendix, also:

1-Every attempt will be made to get back at least 12" of suitable soil over areas to be reclaimed.

2-Areas will be pitted and disced to loosen and roughen the soil surface so there is small pitting to catch precipitation.

3-Seed broadcast per mix recommendation on next page.

4-Seed will be lightly harrowed or raked into soil.

5-Fertilizer will be broadcast at a rate of ten tons per acre of composted manure.

**APPROVED**

**MAR 28 2002**

**DIV. OIL GAS & MINING**

Recommended Revegetation Species List  
for

Western Clay Company  
Bentonite Mine  
M/041/012

Prepared by DOGM Jan. 2002

*For final reclamation*

<u>Common Name</u>	<u>Species Name</u>	<u>*Rate lbs/ac (PLS)</u>
'Boizoiski ' russian wildrye	<u>Elymus junceus 'Boizoiski'</u>	1.0
Intermediate wheatgrass	<u>Agropyron intermedium</u>	1.0
'Piute' orchard Grass	<u>Dactylis glomerata 'Piute'</u>	0.5
Basin Wildrye	<u>Elymus cinereus</u>	1.5
Alta fescue	<u>Festuca arundinacea</u>	1.0
Yellow sweetclover	<u>Melilotus officinalis</u>	0.5
Palmer penstemon	<u>Penstemon palmeri</u>	0.5
Small burnet	<u>Sanguisorba minor</u>	1.5
4-Wing Saltbush	<u>Atriplex canescens</u>	1.0
Rubber rabbitbrush	<u>Chrysothamnus nauseosus</u>	0.3
Forage kochia	<u>Kochia prostrata</u>	0.5
Total		9.3 lbs/ac

*\*This the recommended broadcast seeding rate.*

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MAR 28 2002

DIV. OIL GAS & MINING

## **Attachment I**

### **Vegetation Cover Sampling**

Vegetation cover sampling determines the amount of ground that is covered by live vegetation. It is divided into four categories which equal 100 percent. They are:

Vegetation - This is the live perennial vegetation. Care should be taken to avoid sampling in disturbed areas that have a large percentage of annual or weedy vegetation, such as cheatgrass and russian thistle.

Litter - This is the dead vegetation on the ground, such as leaf and stem litter.

Rock/rock fragments - This is the rock and rock fragments on the soil surface.

Bare ground - This is the bare soil which is exposed to wind and water erosion.

**Cover Sampling** - The following methods are acceptable:

#### **Ocular Estimation**

This method visually estimates the percentage of ground covered in a plot by the four components. Plot size is usually a meter or yard square or a circular plot 36 inches in diameter. Ten to twenty plots should be randomly sampled in each major vegetation type.

#### **Line Intercept**

Percent ground cover is obtained by stretching a tape measure (usually 100') over the ground and then recording which of the four components is under each foot mark. At least ten of these transects should be randomly laid out and measured in each major vegetation type.

### **Soil Survey and Sampling Methods**

If a Natural Resource Conservation Service or land management agency soil survey is not available, the Permittee / Operator shall delineate all soil types that will be disturbed by mining on a map. Each soil type shall be sampled for its characteristics and inherent properties. Representative sampling locations should have similar geologic parent material, slopes, vegetative communities and aspects. The sampling locations should be representative of the soil type and be identified on the map. Sampling shall be at a minimum of one for each soil type disturbed.

The soil map needs to be of sufficient scale so that each soil type can be accurately located on the ground.

Proposed Expansion  
Total Acreage

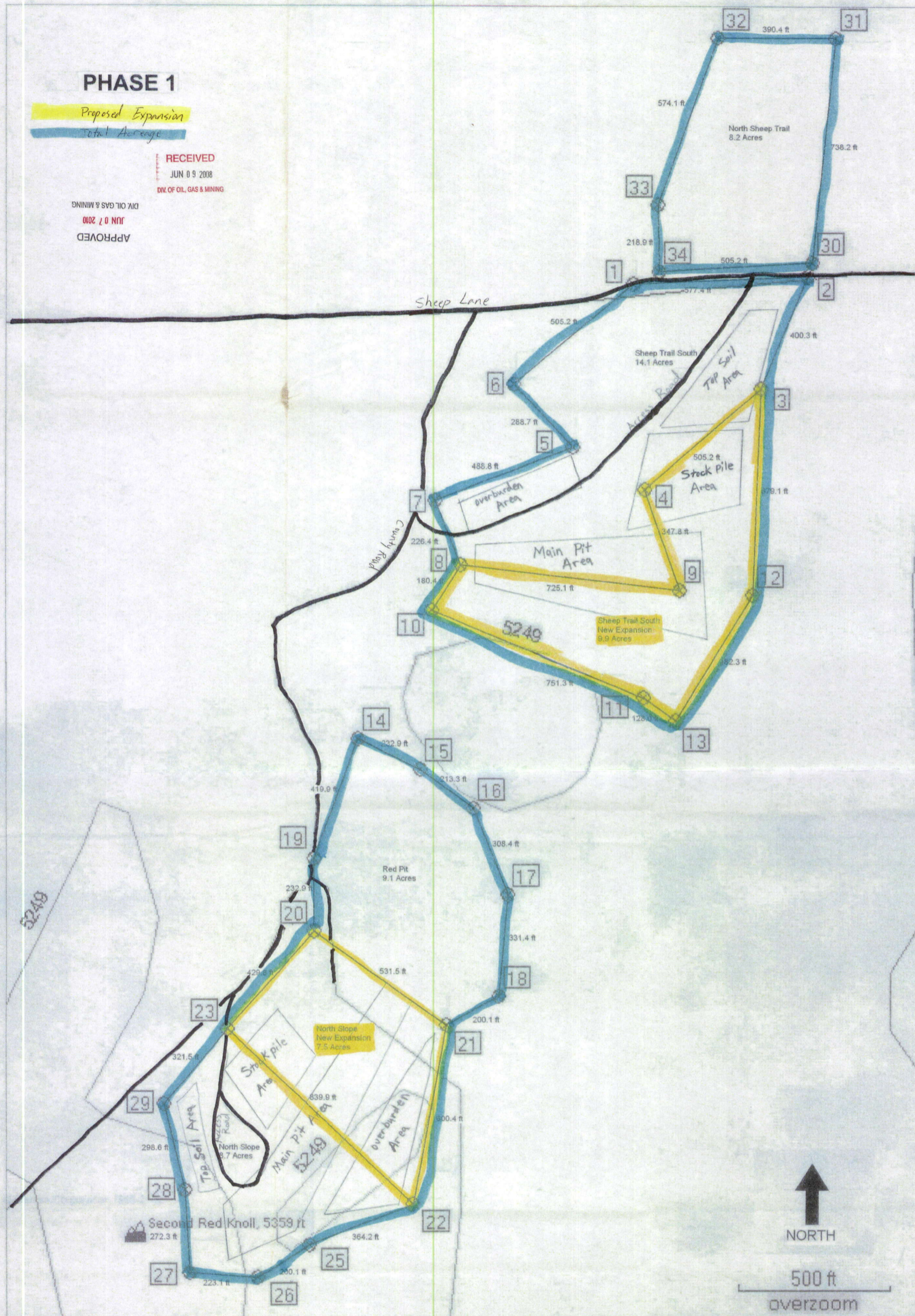
JUN 09 2008

#### DIV. OF OIL, GAS & MINING

DIV. OIL GAS & MINING

JUN 07 2010

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## PHASE 2

## Proposed Expansion

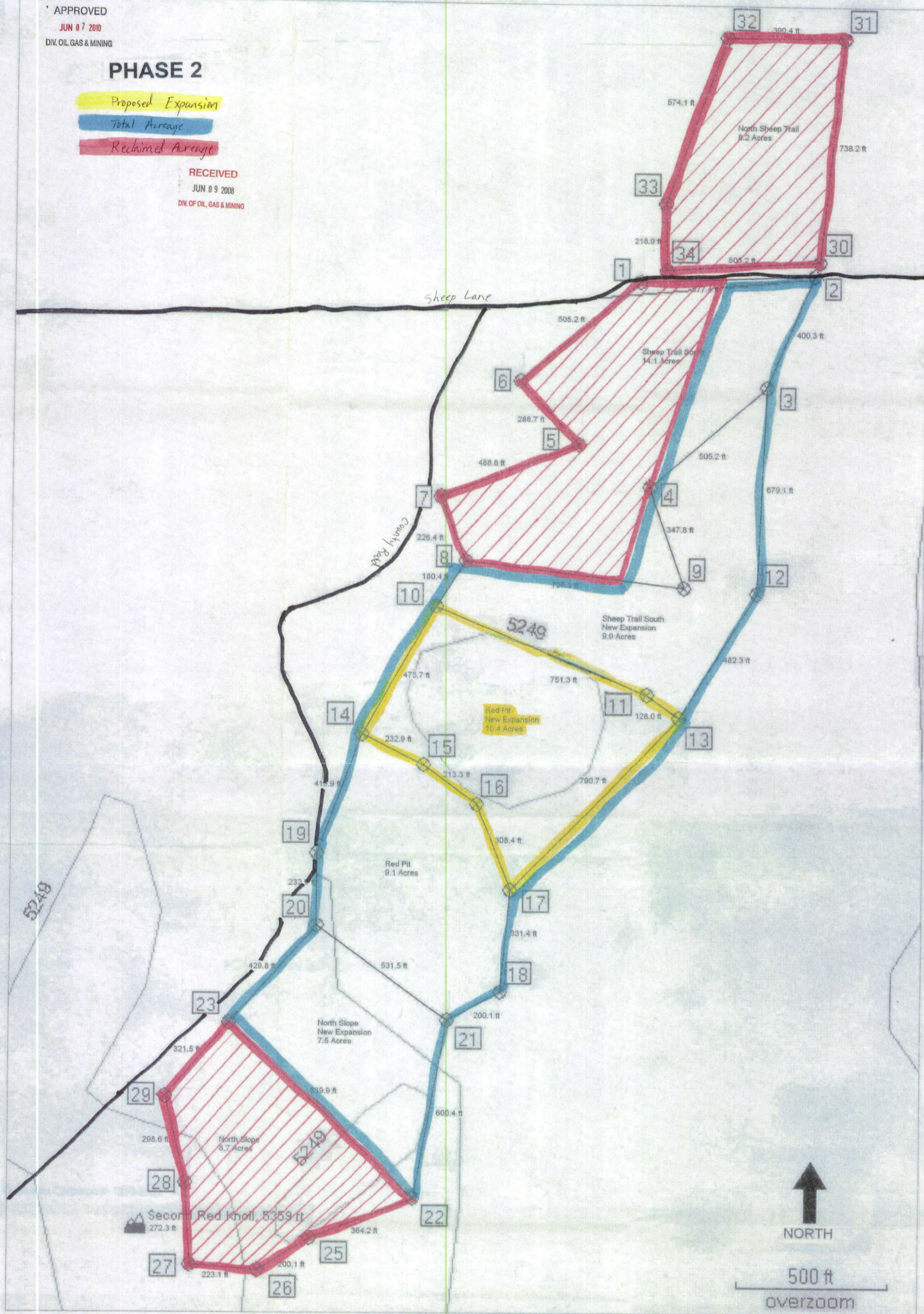
Total Acreage

## Reclaimed Acreage

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$$\begin{array}{r} 8.7 \\ 7.5 \\ 9.1 \\ 10.4 \\ 9.9 \\ 14.1 \\ 8.2 \\ \hline 66.9 \\ 10.4 \\ \hline 56.5 \end{array}$$

**STATE OF UTAH**  
**DEPARTMENT OF NATURAL RESOURCES**  
**DIVISION of OIL, GAS and MINING**  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801  
(801) 538-5291  
Fax: (801) 359-3940

---ooOoo---

**LARGE MINE RECLAMATION CONTRACT**

This Reclamation Contract (hereinafter referred to as "Contract") is entered into between **Western Clay Company** the "Operator" and the Utah State Division of Oil, Gas and Mining ("Division").

WHEREAS, Operator desires to conduct mining operations under Notice of Intention (NOI) File No. **M/041/0012** which has been approved by the Division under the Utah Mined Land Reclamation Act, Sections 40-8-1 et seq., Utah Code Annotated, (2005, as amended) (hereinafter referred to as "Act") and the regulations adopted pursuant to the Act; and

WHEREAS, Operator is obligated to reclaim the land affected by the mining operations in accordance with the Act and regulations, and the Operator is obligated to provide a surety in form and amount approved by the Division or the Board of Oil, Gas and Mining (Board) to assure reclamation of the lands affected by the mining operations.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the Division and the Operator agree as follows:

1. Operator agrees to promptly reclaim in accordance with the Act and regulations, as they may be amended, and in accordance with the mining and reclamation plan (Reclamation Plan) approved by the Division all of the lands affected by the mining operations conducted or to be conducted pursuant to the approved Notice of Intention.
2. The Lands Affected by the mining operations and subject to the requirements of the Act and this Contract include:

- A. All surface and subsurface areas affected or to be affected by the mining operations including but not limited to private on-site ways, roads, railroads; land excavations; drill sites and workings; refuse banks or spoil piles; evaporation or settling ponds; stockpiles; leaching dumps; placer areas; tailings ponds or dumps; work, parking, storage, and waste discharge areas, structures, and facilities; and
  - B. All mining disturbances regardless of discrepancies in the map and legal description, unless explicitly and clearly identified as EXCLUDED on maps, and legal descriptions included in the approved NOI; provided lands may be excluded only if: (1) they were disturbed by mining operations that ceased prior to July 1, 1977; (2) the lands would be included but have been reclaimed in accordance with an approved notice or reclamation plan; or (3) the lands were disturbed by a prior operation for which there is no surety, no legally responsible entity or person, and which lands are not necessarily or incidentally intended to be affected by the mining operations as described in the approved NOI.
- 3. The Reclamation Plan is intended to establish methods, plans, specifications, and other details required by the Act and regulations as they pertain to the lands affected by mining operations, and no provision of the Reclamation Plan shall be interpreted to diminish the requirements of the Act and regulations. The Operator shall be responsible for reclamation of all such Lands Affected regardless of errors or discrepancies in the maps or legal descriptions provided with the NOI or Reclamation Plan, which are primarily intended to assist in determining the location of the mining operations, to describe the areas of disturbance, and to assist estimating the amount of surety required.
- 4. The Operator prior to commencement of any mining operations and as a precondition to the rights under the Notice of Intention shall provide a surety in a form permitted by the Act and in an amount sufficient to assure that reclamation of the Lands Affected will be completed as required by the Act. The Surety shall remain in full force and effect according to its terms unless modified by the Division in writing. A copy of the agreement providing for the Surety for the reclamation obligations herein is included as **ATTACHMENT A** to this Contract.
- 5. If the Surety expressly provides for cancellation or termination for non-renewal:
  - A. The Operator shall within 60 days following the Division's receipt of notice that the Surety will be terminated or cancelled, provide a replacement Surety sufficient in a form and amount, as required by the Act, to replace the cancelled surety; or

B. If the Operator fails to provide an acceptable replacement Surety within 60 days of notice of cancellation or termination, the Division may order the Operator to cease further mining activities, and without further notice proceed to draw upon letters of credit, to withdraw any amounts in certificates of deposit or cash and/or other forms of surety, and to otherwise take such action as may be necessary to secure the rights of the Division to perfect its claim on the existing surety for the purpose of fully satisfying all of the reclamation obligations incurred by the Operator prior to the date of termination, and the Division may thereafter require the Operator to begin immediate reclamation of the Lands Affected by the mining operations, and may, if necessary, proceed to take such further actions as may be required for the Division to forfeit the surety for the purpose of reclaiming the Lands Affected.

6. The Operator's liability under this Contract shall continue in full force and effect until the Division finds that the Operator has reclaimed the Lands Affected by mining operations in accordance with the Act, the regulations, and the Reclamation Plan, as they may be amended. If the mining operations are modified or for any other reason vary from those described in the approved Notice of Intention, the Operator shall immediately advise the Division, and the Notice of Intention shall be revised and the Surety amount shall be adjusted as necessary.
7. If reclamation of a substantial phase or segment of the Lands Affected by the mining operations is completed to the satisfaction of the Division, and the Division finds that such substantial phases or segments are severable from the remainder of the mining area, Operator may request the Division to find that Operator has reclaimed such area. If the Division makes such finding, Operator may make request to the Division for a reduction in the aggregate face amount of the Surety, and the Division may reduce the surety to an amount necessary to complete reclamation of the remaining mining operations as anticipated by the approved Notice of Intention in accordance with the requirements of the Act and regulations, as amended and the Reclamation Plan, as amended. If the Division makes such finding, Operator may make request to the Division for a reduction in the amount of the surety. The Division, or the Board if the surety is in the form of a board contract, may permit such a reduction if it determines that the reduced amount will be adequate to ensure complete reclamation of the lands affected by the mining in accordance with the requirements of the Reclamation Plan, the rules and the Act, as amended.
8. Operator may, at any time, submit a request to the Division to substitute surety. The Division may approve such substitution if the substitute surety meets the requirements of the Act and the rules.
9. Operator agrees to pay all legally determined public liability and property damage claims resulting from mining operations, to pay all permit fees, to

maintain suitable records, to file all required reports, to permit reasonable inspections, and to fulfill all sundry reporting requirements applicable to the mine as required by the Act and implementing rules.

10. Operator agrees to indemnify and hold harmless the State, Board and the Division from any claim, demand, liability, cost, charge, suit, or obligation of whatsoever nature arising from the failure of Operator or Operator's agents and employees, or contractors to comply with this Contract.
11. If Operator shall default in the performance of its obligations hereunder, Operator shall be liable for all damages resulting from the breach hereof including all costs, expenses, and reasonable attorney's fees incurred by the Division and/or the Board in the enforcement of this Contract.
12. Any breach of a material provision of this Contract by Operator may, at the discretion of the Division, in addition to other remedies available to it, result in an order by the Division requiring the Operator to cease mining operations, and may thereafter result in an Order, subject to an opportunity for notice and hearing before the Board, withdrawing and revoking the Notice of Intention, and requiring immediate reclamation by the Operator of the Lands Affected or forfeiture of the Surety.
13. In the event of forfeiture of the Surety, Operator shall be liable for any additional costs in excess of the surety amount that is required to comply with this Contract. Upon completion of the reclamation of all of the Lands Affected, any excess monies resulting from forfeiture of the Surety shall be returned to the rightful claimant.
14. The Operator shall notify the Division immediately of any changes in the Operator's registered agent, the Operator's address, form of business, name of business, significant changes in ownership, and other pertinent changes in the information required as part of the Notice of Intention. Notwithstanding this requirement, any changes to the Notice of Intention, and any errors, omissions, or failures to fully or accurately complete or update the information on the Notice of Intention, or the attached maps, shall not affect the validity of this Contract and the rights of the Division to enforce its terms.
15. If requested by the Division, the Operator shall execute addendums to this Contract to add or substitute parties, or to reflect changes in the Operator, Surety, and otherwise modify the Contract to reflect changes in the mining operations as requested by the Division. All modifications must be in writing and signed by the parties, and no verbal agreements, or modifications in any of the terms or conditions shall be enforceable.
16. This Contract shall be governed and construed in accordance with the laws of the State of Utah.

Each signatory below represents that he/she is authorized to execute this Contract on behalf of the named party, and that the Operator, if not a natural person, is an entity properly organized and in good standing under the laws of the United States and is registered with and authorized to do business in the State of Utah.

OPERATOR:

\_\_\_\_\_  
Operator Name

By \_\_\_\_\_  
Authorized Officer (Typed or Printed)

\_\_\_\_\_  
Authorized Officer - Position

\_\_\_\_\_  
Officer's Signature

\_\_\_\_\_  
Date

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) ss:

On the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, \_\_\_\_\_  
\_\_\_\_\_ personally appeared before me, who being by me duly sworn did say that he/she is an \_\_\_\_\_ (i.e. owner, officer, director, partner, agent or other (specify)) of the Operator and duly acknowledged that said instrument was signed on behalf of said Operator by authority of its bylaws, a resolution of its board of directors, or as may otherwise be required to execute the same with full authority and to be bound hereby.

\_\_\_\_\_  
Notary Public

Residing at \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

DIVISION OF OIL, GAS AND MINING:

By \_\_\_\_\_ Date \_\_\_\_\_  
John R. Baza, Director

STATE OF \_\_\_\_\_ )  
 ) ss:  
COUNTY OF \_\_\_\_\_ )

On the \_\_\_\_ day of \_\_\_\_\_, 20 \_\_, \_\_\_\_\_  
\_\_\_\_\_ personally appeared before me, who being duly sworn did say that he,  
the said \_\_\_\_\_ is the Director of the Division of  
Oil, Gas and Mining, Department of Natural Resources, State of Utah, and he  
duly acknowledged to me that he executed the foregoing document by authority  
of law on behalf of the State of Utah.

\_\_\_\_\_  
Notary Public

Residing at: \_\_\_\_\_

\_\_\_\_\_  
My Commission Expires:

## FACT SHEET

Commodity: \_\_\_\_\_

Bonded Acres: \_\_\_\_\_

Mine Name: \_\_\_\_\_

Permit Number: \_\_\_\_\_

County: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Operator Address: \_\_\_\_\_

Operator Phone: \_\_\_\_\_

Operator Fax: \_\_\_\_\_

Operator Email: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Contact Email: \_\_\_\_\_

Contact Phone: \_\_\_\_\_

Surety Type: \_\_\_\_\_

Bank: \_\_\_\_\_

Surety Amount: \_\_\_\_\_

Account number: \_\_\_\_\_

Tax ID (required for cash only): \_\_\_\_\_

Escalation year: \_\_\_\_\_

Surface Owner: \_\_\_\_\_

Mineral Owner: \_\_\_\_\_

UTU/ML number: \_\_\_\_\_

\*\*\*DOGM Contact: Penny Berry, State of Utah, Division of Oil Gas and Mining, 801 538 5291 or [bondcoordinator@utah.gov](mailto:bondcoordinator@utah.gov)